The NATION'S SCHOOLS

DEVOTED TO THE APPLICATION OF RESEARCH TO THE BUILDING, EQUIPMENT AND ADMINISTRATION OF SCHOOLS

JUNE 1931

VOL. VII No. 6

Published by THE NATION'S SCHOOLS PUBLISHING CO., *Chicago.*

If the Board of Health WALKED in Unexpectedly

Would investigation show the boys' and girls' washrooms are kept as they should be? Are they clean, light, well ventilated? How about the most important fixture of all, the toilet seat.

• Have a tour of inspection made. Have every toilet seat in the school looked at by the janitor. Get a report on their condition. Is the finish worn off, giving the wood a chance to absorb moisture? Are any split or cracked? Do any have exposed metal hinges that have corroded? Cracked seats and corroded hinges gather dirt and breed germs. Old-fashioned, worn-out, unsightly seats invite abuse instead of teaching ideal sanitary cleanliness. Don't let a condition exist that the Board of Health would not approve. Get rid of all undesirable seats and install handsome, new Whale-bone-ite Seats in their place.

• Whale-bone-ite always looks new, clean and inviting. It keeps its beautiful appearance forever. Once installed, Whale-bone-ite never has to be replaced. It is guaranteed for the life of the building, ending replacement expense once for all.

Send TODAY for New Book
"Install Them Once Forever"

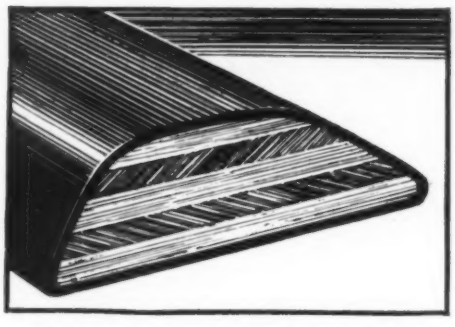
In order to have proper toilet seats in present buildings or new schools, get the complete story of Whale-bone-ite Seats as told in this new book. No cost or obligation. Mail letter today. Address, The Brunswick-Balke-Collender Co., Dept. G-14, 623-633 South Wabash Avenue, Chicago, Illinois.

★ *Brunswick* ★
LAMINATED
WHALE·BONE·ITE
TOILET SEATS

It takes a whale of a seat to stand public toilet abuse

In this cross-section note the cross-grain, laminated construction, exclusive with Brunswick, that gives Whale-bone-ite a super-strength, that defies time and abuse. It is the only construction that combines unbreakable strength with necessary lightness and sanitary qualities.

Jet-black, glass-smooth and diamond-hard, Whale-bone-ite beauty never wears off seat or hinge. No exposed metal hinges to corrode, to collect dirt or need polishing. No cracks to harbor dirt and germs. Easy to keep clean and sanitary with minimum effort. Non-inflammable. With all these advantages Whale-bone-ite costs no more than the cheapest moulded composition seat made.

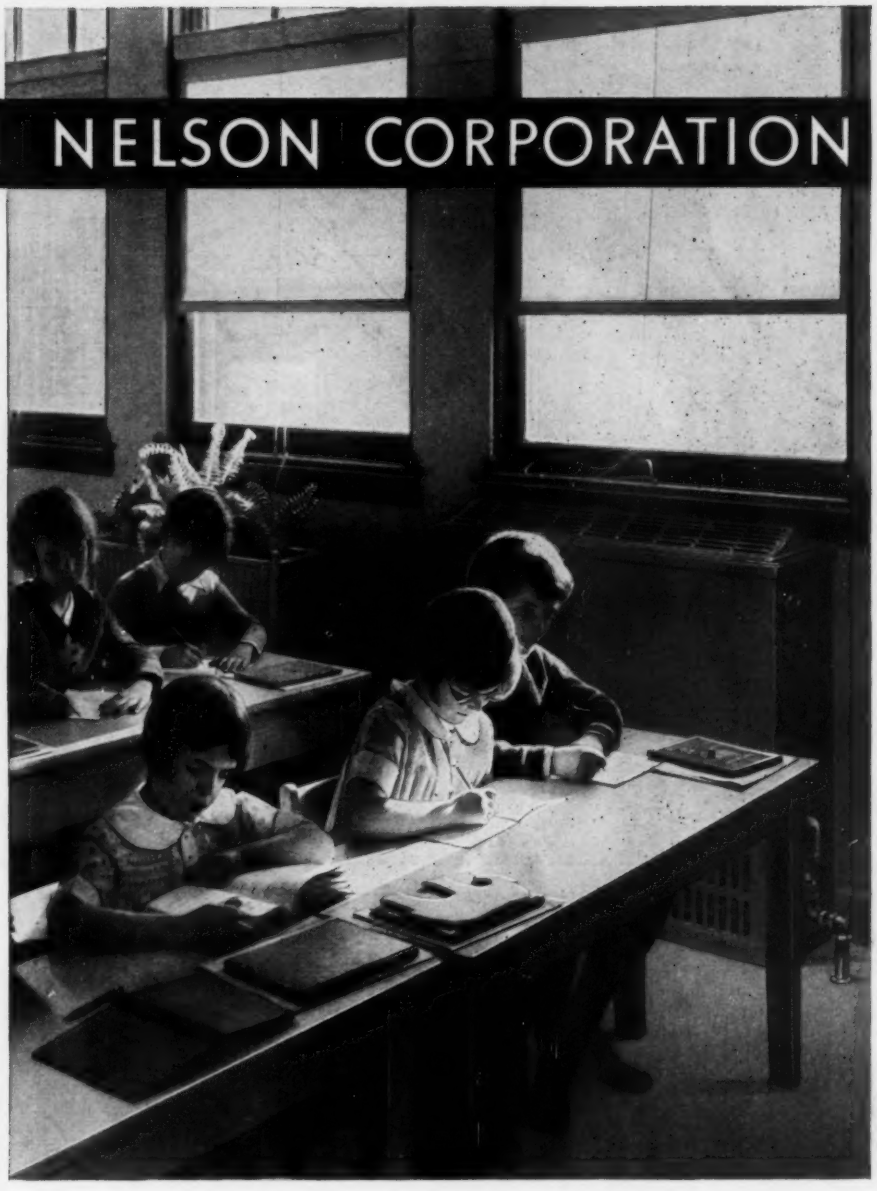


WHALE-BONE-ITE CROSS-SECTION

End Replacement Expense Forever

Once installed, Whale-bone-ite Seats will outlast any building, old or new. There is only one reason why we can give them such a guarantee. That reason lies in their cross-grain laminated construction, exclusive with Brunswick, which gives them abuse-defying, time-defying strength unobtainable in any other practical way.

THE HERMAN NELSON CORPORATION



HERMAN NELSON

HER-NEL-CO

SYSTEM OF VENTILATION

Engineers, architects and school authorities see in the Her-Nel-Co System of Ventilation the practical solution of a most harassing problem.

In this system an invigorating, healthful atmosphere is created and maintained in the school room—without the expensive expedient of preheating a continuous supply of outdoor air.

It is estimated that the Her-Nel-Co operates at 50% of the fuel costs of systems based on supplying the school room with a fixed quantity of outdoor air—irrespective of outside weather conditions. Naturally this modern system also effects decided savings in boiler costs, radiator costs, and building costs.

School authorities, engineers, and architects interested in securing better ventilation, at a saving in fuel, maintenance and building costs, should write for the book, "The Herman Nelson Her-Nel-Co System of Ventilation".

The Herman Nelson Corporation are makers of the *Univent System of Ventilation*, the *Her-Nel-Co System of Ventilation*, the *Herman Nelson Invisible Radiator*, the *Herman Nelson hi Jet Heater*, and other heating and ventilating equipment.

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Factory at Moline, Illinois • ***Sales and Service Offices in All Principal Cities***

BELFAST, ME.	SCRANTON	GRAND RAPIDS	DES MOINES	MIAMI	SAN FRANCISCO
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These Photographs of the Same Room Were Taken Ten Minutes Apart

Two Hundred Boys Would Have Been Turned Away From Enrollment at This School Were It Not for Deskor Chair Installation

DESKOR CHAIRS in the Auditorium of the Public Latin School in Boston solve the important problem of taking care of two hundred more pupils. Every other chair is a "converter." When it is desired to change the Auditorium into a Study Hall, each "converter" is inverted, removed from its position as a chair and placed as a desk behind an adjoining chair. This action opens up small aisles, and a regular classroom formation is obtained instantly, as shown in the lower photograph.

The change is made in one minute by the pupils themselves. These photographs were taken ten minutes apart.

By utilizing this auditorium for study purposes six classrooms, formerly used as study rooms, have been liberated for recitation purposes throughout the day. Only two teachers are necessary to supervise the pupils as they study.

The equipment can be converted instantly into assembly formation, as shown in the upper photograph.

If you will send a diagram of an auditorium or classroom, with accurate measurements, we shall be glad to forward a layout for Deskor Chairs. Such action will involve no obligation whatever on your part.

DESKOR CHAIR SALES CORPORATION

New York Office: 2 West 45th Street *Main Office:* PARK SQUARE BUILDING, BOSTON

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CONTENTS FOR JUNE, 1931

Articles appearing in The NATION'S SCHOOLS are indexed regularly in the cumulative Education Index

DOES YOUR LUNCH-ROOM EQUIPMENT SHINE LIKE POLISHED GLASS?

If the soup tureens, vegetable insets, meat trays, ladles and other utensils in your school lunch-room do not have the luster of glass . . . if they are darkened and stained by cooking . . . your school needs Vollrath Ware. The surface of Vollrath is glass-hard enamel . . . durable . . . lustrous . . . as beautiful as china. Its glistening whiteness makes good foods look doubly good. Into its hard, smooth surface, acids and stains cannot enter. Simple sudsing renews a Vollrath utensil every time. Scouring is never necessary.

Investments in school lunch-room equipment should be permanent and satisfactory. In Vollrath—whether in individual dishes or complete installation—you get a base of heavy gauge steel on which are fused at 1800° F. three coats of finest enamel. The resulting thickness is important. It holds heat—helps cooking—resists blows. There are no seams or rivets to make sanitation difficult. The handles are gas-welded on and cannot tear apart. There are no breaks in the glistening smoothness; and every corner, every edge is rounded.

Many schools and business houses have used Vollrath Ware for years. Others are just discovering Vollrath Ware. Let us send you folders and estimates. The Vollrath Co., Sheboygan, Wisconsin. Established 1874.

The Vollrath name in this form on the label assures you of genuine Vollrath Ware

QUALITY DURABILITY PURITY
VOLLRATH
THE VOLLRATH CO.
SHEBOYGAN, WIS. U.S.A.

VOLLRATH WARE

Index of Advertisers

NOISE

Leads the class in Multiplication

NOISE • NOISE • NOISE

QUIET • QUIET • QUIET

NOISE, if allowed to romp through your school unrestrained, will teach you things about multiplication.

Noise can turn the sound of two footsteps into twenty — change cafeteria and manual training room racket into a perfect din — multiply and re-multiply spoken words until they're a jumble of meaningless sound.

But Noise is defeated when Acousti-Celotex is applied to the ceilings.

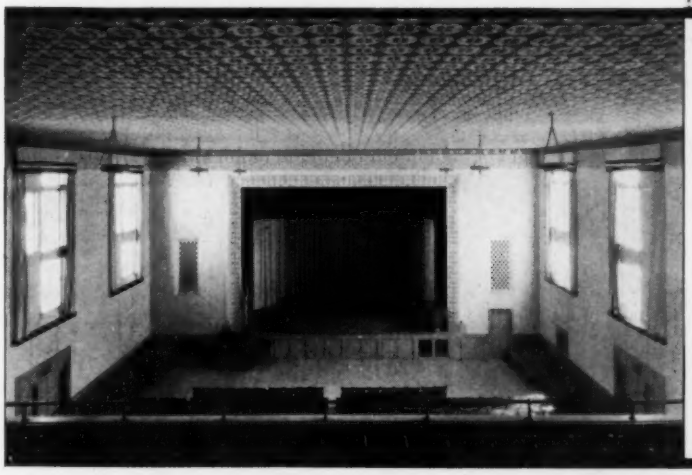
For Acousti-Celotex subdues distracting classroom noises — absorbs the racket in corridors, cafeterias, manual training rooms and swimming pools — quiets reverberation in assembly halls.

Acousti-Celotex comes in attractive tiles which are quickly installed in old or new buildings. No remodeling is necessary — the tiles are applied directly to, and become a permanent part of, the old ceiling. They may be left in their natural buff color, or stencilled in desired patterns.

Acousti-Celotex is applied by Acousti-Celotex contracting engineers, trained in acoustical problems. The school architect or school board may secure their services for a survey without cost or obligation. Now, before the fall term opens, is a good time to thoroughly investigate this solution to your noise problem. For an appointment, fill in and mail the coupon below.

The Celotex Company, 919 North Michigan Avenue, Chicago, Illinois. In Canada: Alexander Murray & Co., Ltd., Montreal. Sales distributors throughout the World. Acousti-Celotex is sold and installed by Acousti-Celotex contracting engineers.

This Acousti-Celotex ceiling in the auditorium of Elmhurst Junior High School, Oakland, California, adds decorative beauty and provides perfect acoustics for assembly meetings, lectures, and entertainment. Architect, John J. Donovan.



ACOUSTI CELOTEX

requires no extra maintenance cost. The tiles may be painted the same as ordinary plastered surfaces, without danger of impairing their sound-absorbing value. The perforations shown in the close-up make this possible.

ACOUSTI-CELOTEX

FOR LESS NOISE—BETTER HEARING

The words Celotex and Acousti-Celotex (Reg. U. S. Pat. Off.) are the trademarks of and indicate manufacture by The Celotex Company.

N. S. 6-31

Fill out and mail to The Celotex Company for the appointment of an engineer to analyze your acoustical and noise problem. No obligation.

Name.....

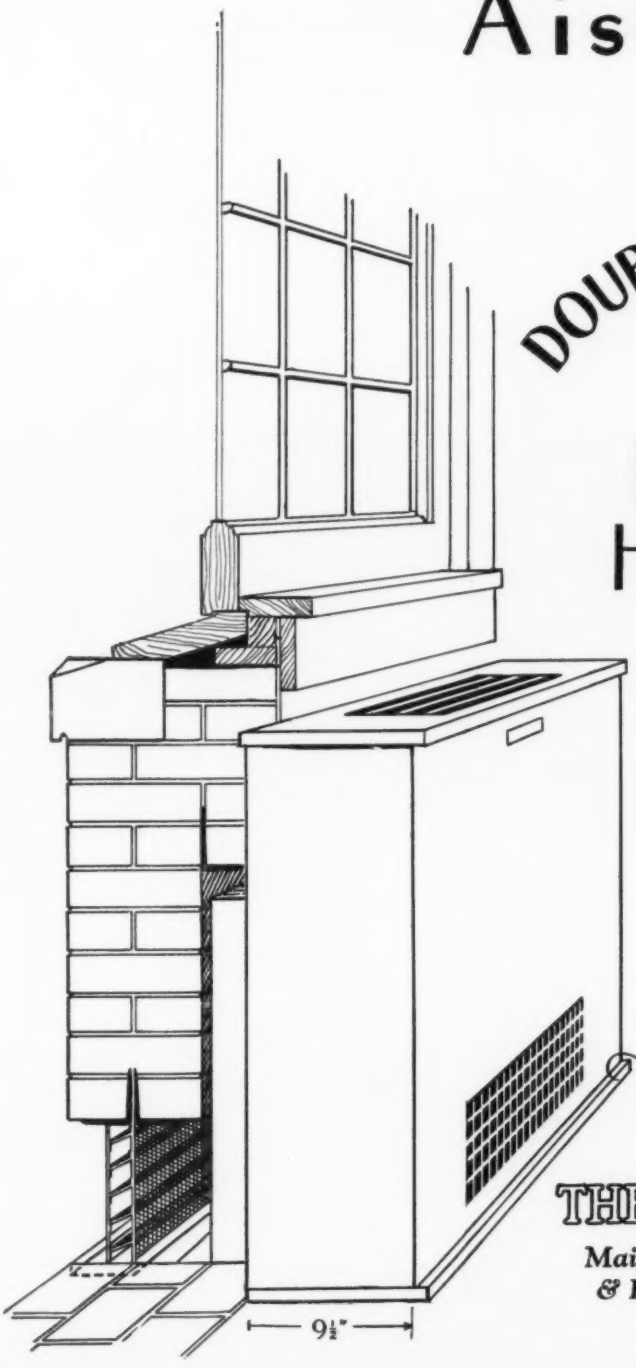
School.....

Street.....

Town..... *State*.....

Only 9½ Inches

Aisle Projection



DOUBLE-DUTY-DE LUXE

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BUCKEYE Heatovent

ALL TRAPS VALVES AND PIPING *are contained within the* **CABINET**

The Unit that carries the Full Heating Load

THE BUCKEYE BLOWER COMPANY

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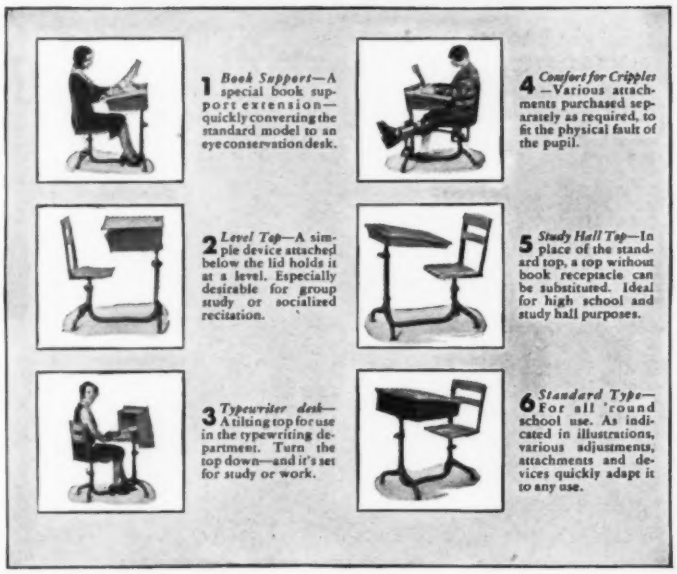
As your Students *Sit* and *See*

. . . so their future is moulded!

BE SURE YOU KNOW WHAT CONSTITUTES CORRECT POSTURE SEATING BEFORE YOU BUY



1 *Book Support*—A special book support extension—quickly converting the standard model to an eye conservation desk.

2 *Level Top*—A simple device attached below the lid holds it at a level. Especially desirable for group study or socialized recitation.

3 *Typewriter desk*—A tilting top for use in the typewriting department. Turn the top down—and it's set for study or work.

4 *Comfort for Cripples*—Various attachments purchased separately as required, to fit the physical fault of the pupil.

5 *Study Hall Top*—In place of the standard top, a top without book receptacle can be substituted. Ideal for high school and study hall purposes.

6 *Standard Type*—For all 'round school use. As indicated in illustrations, various adjustments, attachments and devices quickly adapt it to any use.

YOUR own family physician—and other authorities—will tell you that the *mental* growth of school children is directly related to their *physical* development. For healthy bodies help make strong, alert minds!

Eyes that squint in reading at school retard mental impressions—distract attention—cause study fatigue. Bodies that slump over school desks crowd the heart, lungs, and other vital organs—prevent their normal functioning.

In the "American" all-purpose Universal Desk the American Seating Company has provided educators with a school desk remarkable for its efficiency—outstanding for its health protecting features. The illustration at the left shows how it is adaptable to six distinct classroom uses—how it induces good posture that makes erect sitting natural and comfortable . . . and how it also provides features that definitely assist in sight conservation.

Know this desk before you buy. Years of scientific research are behind it—improvements are provided that contribute to the mental and physical welfare of the children in your care. Be sure you know the facts about posture correctness—that you understand what makes a school seat posturally correct—and why.

The coupon brings you important and authentic information without obligation. Please use it!

American Seating Company

Makers of

Fine Seating for Schools, Churches and Public Auditoriums

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INSIST ON MODERN POSTURALLY-CORRECT SEATING DON'T LET OBSOLETE SEATING HAMPER CHILD PROGRESS

(N86)

FREE Send the coupon for several authoritative booklets on posture and what seating has to do with it. A free poster on posture will also be furnished upon request. Size 11½ by 25 inches—printed in 3 colors—it graphically shows children why they should sit erect. Hang one in your school. Please use the coupon.

AMERICAN SEATING COMPANY, 14 East Jackson Blvd., Chicago, Ill.

Please send me, free and without obligation, a copy of your Posture Poster on correct sitting. Principals and superintendents will be supplied with a poster for each room, on request. Please indicate the number of classrooms. (A. S. B. 6)

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Address.....

Position.....

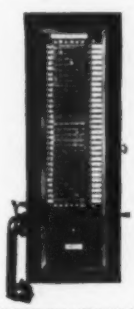
(Indicate here whether you are Superintendent, Principal or Teacher)

☐ Send me the several authoritative booklets on posture you offer free.

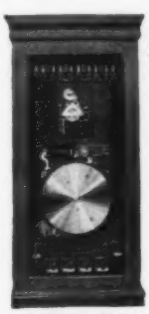
International Supervised Time Is the Standard of Modern Schools

INTERNATIONAL CORRIDOR GONG

INTERNATIONAL CLASS ROOM CLOCK



INTERNATIONAL CROSS CONNECTING BOARD



INTERNATIONAL PROGRAM CABINET

Grammar schools — high schools — colleges and universities. Thousands of schools both large and small in every part of the country depend upon International Supervised Time Control for the efficient government of study routine which modern administration demands.

International engineers have been studying program methods for many years. They have concentrated upon the development of timing devices that will fully meet the requirements of efficiency and economy of operation.

Prominent educators today recognize International Hourly Supervision as the highest achievement in the history of time control methods.

This principle, as applied to school program systems, automatically handles any kind of schedule with never a need of manual regulation. All maintenance worries are entirely abolished. Once in operation, an International Program System carries on with unvarying accuracy — always dependably and satisfactorily.

Ask the International Time Specialist in your vicinity for a copy of "Time Control in the School"

INTERNATIONAL SUPERVISED

INTERNATIONAL BUSINESS MACHINES CORPORATION

International Time Recorders and Electric Time Systems
International Electric Tabulating and Accounting Machines
Dayton Moneyweight Scales and Store Equipment
International Industrial Scales

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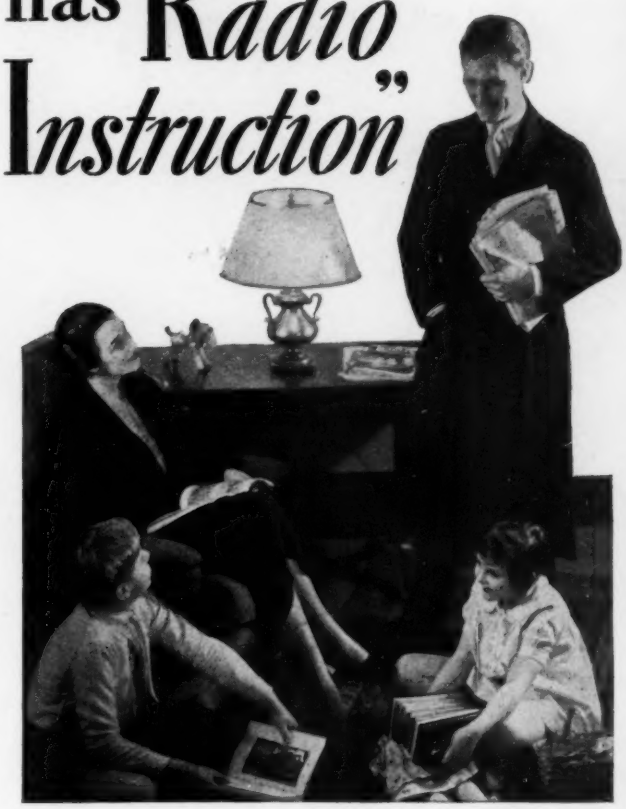
Branch Offices and Service Stations in All Principal Cities

"I'm glad his school has *Radio Instruction*"



PARENTS everywhere are enthusiastic over the progress being made by their children in radio equipped schools. Everyone agrees that organized broadcast instruction is the most advanced form of teaching. You will find RCA Centralized Radio being installed in the most progressive schools. With this system, as many as four different broadcast programs can be brought in to any or all class or assembly rooms. Either Radio or Phonograph reproducing is available. RCA guarantees every installation. Write today for literature.

RCA Centralized RADIO

Engineering Products Division

RCA VICTOR COMPANY, Inc. Camden, N. J.

Centralized Radio System — *A Radio Corporation of America Subsidiary*

100 W. Monroe St., Chicago **235 Montgomery St., San Francisco**

155 East 24th St., New York

Representatives in Principal Cities

Descriptive pamphlets of this system and photographs of typical installations are available to architects, school boards, superintendents and principals.

Without any obligation, we shall gladly prepare plans and estimates for installations of any size. Write to

ENGINEERING PRODUCTS DIVISION, RCA VICTOR CO., Inc., CAMDEN, N. J. PG

Name.....

School.....

Address.....

But there's no debate as to whether they hear him

He doesn't have to have a powerful voice when the auditorium is equipped with a Western Electric Public Address System. His voice carries easily to the rear seats. Public Address equipment picks up sound, amplifies it as desired and distributes it to one outlet or to many. Reproduction is of the high quality to be expected of apparatus made to the Bell System's standards by its telephone makers. The coupon brings you data on many other uses for Public Address installations.

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Graybar Building, New York, N. Y.

Gentlemen: Please send us the story of the Public Address System.

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ADDRESS.....

CITY.....STATE.....

Western Electric

PUBLIC ADDRESS AND MUSIC REPRODUCTION SYSTEMS

Distributed by* GRAYBAR *Electric Company

Left — Car-Na-Var gives beautiful lustre to wood and terrazzo floors at Alvernia High School, Chicago

We've tried many floor treatments

. . . but can depend only on Car-Na-Var

THAT is the verdict of W. H. Dupar, Superintendent of Washington's exclusive Mayflower Hotel. "Many conventions and parties," continues Mr. Dupar, "are held in the grand ballroom (floor area about 7,000 sq. ft.) and the equipment moved in and out is often hard on the polished floor surface. A single application of Car-Na-Var, however, never fails to restore the beautiful, rich lustre."

● Car-Na-Var is a scientific combination of varnish gum and waxes. It gives a beautiful, lustrous, yet non-slippery finish to wood, linoleum, mastic, concrete, cork, etc. ... protects the surface indefinitely from wear... and cuts maintenance costs as much as 50%. Comes in "Natural" and popular colors. Readily applied with a mop.

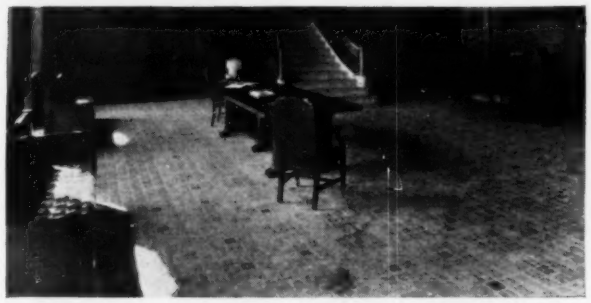
● Rubber-Var (companion treatment to Car-Na-Var) is a special treatment for rubber, soft composition and light colored terrazzo floors. Gives same desirable results as Car-Na-Var. It's waterproof.

Left — Thousands of grinding feet cannot harm rubber floors in this Washington, D. C., Building (W. B. Hibbs & Co.) since protected with easily applied Rubber-Var.

Below—Car-Na-Var preserves and beautifies tile and linoleum floors in plant of Eli Lilly & Co., Indianapolis, Indiana. Car-Na-Var also reduces floor maintenance costs.

Above—Only easily applied, quick drying Car-Na-Var can keep these greatly used floors of the Mayflower Hotel, Washington, D. C., always in first class condition.

Every person interested in the efficient and economical maintenance of floors should have a copy of "Floor Research." Written by a nationally known floor consultant. Send coupon for free copy.



CAR-NA-VAR
TRADE MARK REG. U.S. PAT. OFF.
THE PERFECT FLOOR TREATMENT

$1 BOOK FREE

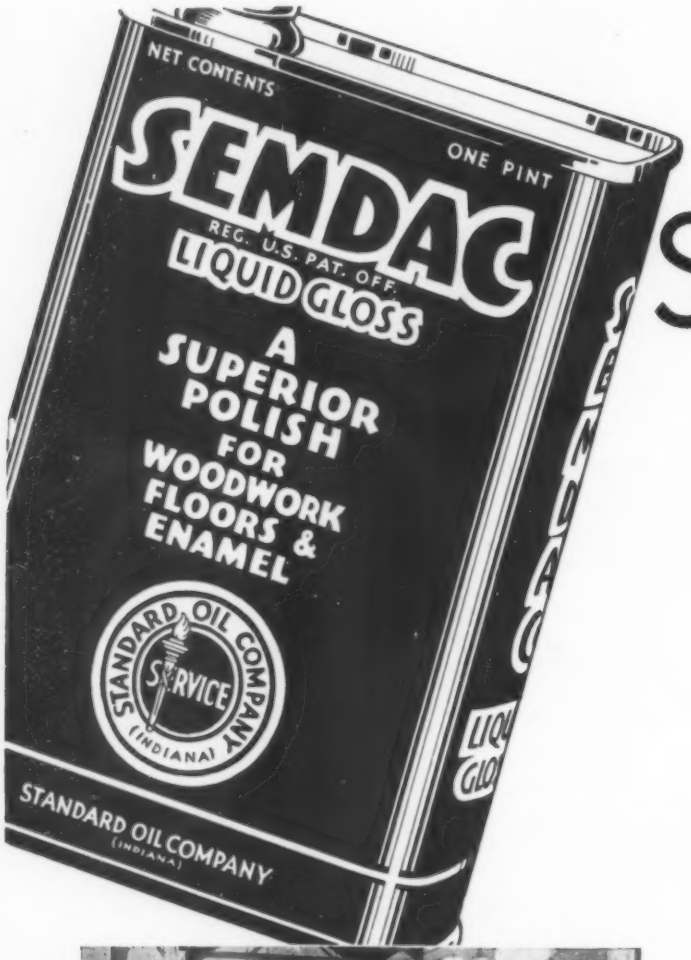
Continental Chemical Corporation
241 Scott Street, Watseka, Ill.

Without obligation send me FREE copy of "Floor Research." Also send me further details about Car-Na-Var and Rubber-Var and your FREE TEST offer.

Name_____

Address_____

By_____



SEMDAC . . .

LIBRARY

Semdac Liquid Gloss assures that spic and span appearance to school library furniture and floors so essential in winning favorable impressions from school children.

GYMNASIUM

Semdac keeps Gym floors clean and prevents flying dust during games and exercise periods. It protects the floors from wear, warping or cracking.

SEMDAC LIQUID GLOSS

keeps floors and desks in good condition during vacation months

FLOORS, woodwork and desks treated with Semdac Liquid Gloss will not dry out, warp or crack during hot summer vacation months.

In many schools Semdac Liquid Gloss is applied to all woodwork at the close of school for summer vacation. Then, just before the opening of school in September, a light application may be necessary in order to remove summer dust and dirt.

There is a modern way to apply Semdac, now, with a sprayer, which makes application very quick and easy. With the sprayer, a smooth, even application is obtained, and this method is economical.

Semdac Liquid Gloss is sold conveniently in barrel, half barrel, five gallon, half gallon and quart cans. Write for prices.

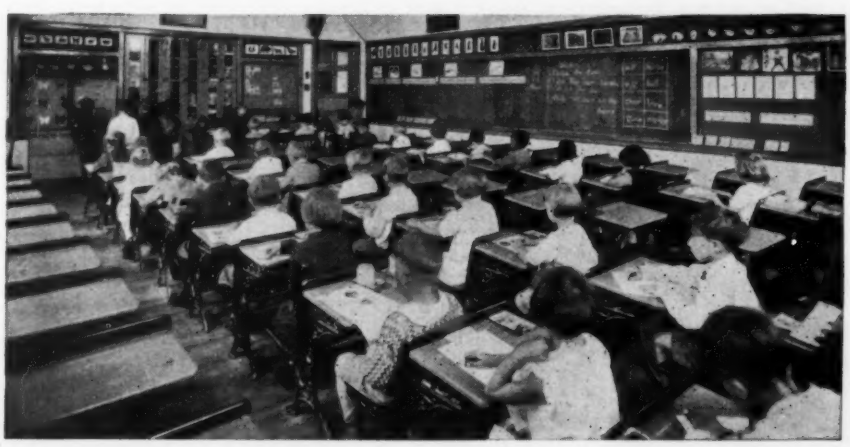
STANDARD OIL COMPANY
(Indiana)
910 South Michigan Avenue Chicago, Illinois

1905

SEMDAC FURNITURE DRESSING

For the finer furniture in the school Semdac Furniture Dressing is the ideal cleaner, polish and preservative. It produces a brilliant and durable lustre and will keep furniture as good looking as the day it left the showroom floor.

Semdac Furniture Dressing is sold in pint and quart bottles.



SCHOOL ROOM

One of the important duties of any school official is to see that class rooms are clean and sanitary. To keep down dust is of utmost importance. This can be done easily and economically by regular application of Semdac Liquid Gloss.

STURTEVANT ANNOUNCES *flexibility* IN UNIT VENTILATION!

A NEW UNIT THAT PROTECTS TODAY'S INVESTMENT AGAINST TOMORROW'S CHANGE

WHAT IT MEANS TO YOU

To School Officials—the Sturtevant FLEXIBLE Unit Heater-Ventilator safeguards an investment in ventilating equipment against future changes in law, practice and personal preference. At negligible cost it can be simply rearranged after installation.

To the Architect, Engineer and Contractor—the Sturtevant FLEXIBLE Unit Heater-Ventilator provides standardized equipment that can be simply arranged to exactly suit the requirements of a particular building or service.

LEADERSHIP is again exhibited by Sturtevant with the presentation of a new *Flexible* Unit Heater-Ventilator. The development of standard unit ventilation equipment that can be arranged to function in harmony with any of several objectives, constitutes the greatest advance since the invention of unit apparatus.

Flexibility is required in unit ventilation equipment to satisfy the varying ventilating laws, practices and preferences of the present time. The different approaches to the same result—human health, comfort and efficiency—can all be made with the Sturtevant *Flexible* Unit Heater-Ventilator.

Flexibility is needed, also, if an investment in unit ventilating equipment is to be safeguarded against the possible changes of tomorrow. Ventilation is a science which is making rapid forward strides. As it advances, law and practice will undergo revision. Equipment must be flexible or it may become obsolete. The Sturtevant *Flexible* Unit Heater-Ventilator is so designed that after installation, if desired, it can be easily and economically converted to function in a different manner, to comply with new laws or practices.

At this time, Sturtevant also announces another exclusive development—the Sturtevant Self Contained Automatic Temperature Regulator—which can be obtained, when desired, only in Sturtevant *Flexible* Unit Heater-Ventilators. It is an extremely sensitive, simple and reliable thermal control element which is mounted completely in the unit cabinet. It requires neither electrical nor pneumatic connection.

Because of their signal importance, these Sturtevant achievements in the field of unit ventilation merit your complete investigation and most serious consideration. At your request a Sturtevant Engineer will provide full details. Or we will send a copy of our specially prepared Catalog No. 377 for your study.

B. F. STURTEVANT COMPANY

Main Offices: HYDE PARK, BOSTON, MASS. CHICAGO, ILL., 410 No. Michigan Ave., SAN FRANCISCO, CAL., 681 Market Street. *Branch Offices in Principal Cities.* Canadian Offices at Toronto, Montreal, Galt. Canadian Representative: Kipp Kelly, Ltd., Winnipeg.

EASILY ARRANGED TO SUIT SPECIAL CONDITIONS SATISFIES ALL LAWS, ALL PRACTICES, ALL PREFERENCES

Arrangement 1—Delivers all out-of-door air, at all times.

Arrangement 2—Delivers all out-of-door air when room is occupied. Recirculates and heats all interior air when room is unoccupied, to accomplish quick, economical heating.

Arrangement 3—Delivers 50 per cent out-of-door air in constant quantity and at the same time recirculates 50 per cent of the room air. When room is unoccupied it recirculates and heats 100 per cent of the room air.

Sturtevant REG. U.S. PAT. OFF. *the Flexible* Unit Heater-Ventilator

SUPPLIES OUTDOOR AIR • FILTERED CLEAN • AND TEMPERED

The handsome modern East High School, Buffalo, designed by F. J. & W. A. Kidd, Architects. 6,000 square feet of perfect Bloxonend gymnasium floor — also a perfect dance floor.

Fine for Dancing too—

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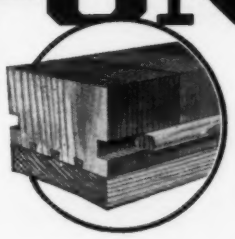

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Why Teachers' Salaries Should Not Be Reduced

Answering the criticism that education is costing too much, this article points out that the increasing investment in schools is part and parcel of our present industrial order and inexorably follows its trends

By HENRY HARAP, Associate Professor of Education, School of Education,
Western Reserve University, Cleveland

THERE is a constant discussion in the public press concerning the increased cost of the public schools. I have examined all the available facts and do not find the slightest cause for alarm. There is no evidence that public education is a disproportionate burden on the taxpayer. The mounting cost of common schools is no threat to the economic safety of the taxpayer or of business in general.

The rising cost of public expenditures is simply another evidence of social and economic progress which is a part of the postwar era. I am not unaware of the present depression but I refuse to admit that it has come to stay. I am willing to agree to certain temporary adjustments if they are necessary and wise, but I am emphatically opposed to any permanent curtailment of the present program of public service until it has been definitely settled that the cost of living has been permanently reduced, that wages in general have been lowered and that the national income has been permanently decreased.

Some business men seem to have forgotten the lesson of the depression of 1920-21. At that time certain business executives began the customary onslaught on wages but the trade unions presented formidable opposition. Wages were cut but not as much as the price of consumers' goods. In 1922 when business recovered, wage earners were in possession of a comparatively large purchasing capacity. Then to their great amazement, employers discovered that the frustration of their attempts to cut wages turned out to be a boon. Thus the principle of high wages came to be espoused by the business leaders.

We have widely published indexes of the level of wages, the cost of living, the volume of business and the national income. At the present time we are at the trough of the depression. The normal expectancy is that business conditions will rise to the level at which they stood in 1929 just before the depression set in. This can hardly be reached in less than two years, which means that it is the duty of boards of education as well as of industry in general to be patient before demanding any permanent downward revision in the school budget. In the meantime we have a solemn obligation to sustain the purchasing power of a million salary earners so as to help hasten business recovery.

I purpose to present data to show first that the cost of schools, all public expenditures for that matter, is not a larger burden than it has been heretofore; second, that school costs have risen in the same proportion as all other significant invest-

ments according to the present rate of industrial progress; third, that increases in salaries for teachers follow the same trends as salaries in industry. In every case I shall give recent well documented available data.

The best basis of discussing public costs is the income of the people, for that represents the ability to spend. The United States as a whole spent 2.74 per cent of its national income for public education in 1928. Roughly, from two to three dollars of every hundred earned by the people are spent for education, which on the face of it appears to be a small burden. How does the cost of public education compare with certain other common expenditures? For luxuries during the same year we spent 7.15 per cent of our national income; for automobiles we spent 13.98 per cent of our national income. For every dollar we paid for schools we spent $2.61 for luxuries and $5 for automobiles. When taxpayers or their representatives vote on questions relating to school costs, they have to decide which in the long run will be of the most benefit to all the people.

U. S. Has Lowest Tax Rate

For all public services we spent 10.4 per cent of the national income; that is, roughly, one out of every ten dollars earned is contributed directly or indirectly to pay for the expenses of government. Comparing this with the cost of public education, we find that roughly one out of every four government dollars is spent for education. To return, however, to the expenses of government, I don't know whether the average person considers a total tax burden of one dollar out of every ten earned as serious, but as compared with other countries it is amazingly light. Not a great power in the world has as low a tax burden as our country. Indeed the average tax load of these nations is nearly twice that of the people of the United States. And what of income? The per capita income in the United States is astonishingly greater than that of any other country. With the largest per capita income we have the lowest tax rate. The American taxpayer would be dumfounded if he were told that in England a married man whose income is $2,500 pays annually a national income tax of $134.25. The corresponding tax here is zero.

We are repeatedly confronted by figures showing the rise in school expenditures, but we are not told that our income has increased proportionately. In the seven years preceding 1928 the sum of money spent for education increased over a half billion dollars but the tax burden remained almost the same. This consistently even rate for the last seven years was true not only of the expenses of education but also of all public expenditures. Nor did the public schools demand an increasingly larger share of public funds than any other governmental agency during these years. If the rate of progress, as judged by costs, was too fast in the schools then it was equally rapid in all branches of the public service. The force of these facts is that we spent more for education simply because we had more to spend for all purposes. The larger the national income, the more money is available for education.

When a family becomes more affluent it increases its expenditures for education and when a nation becomes more prosperous it does likewise. In the last ten years enrollment in our high schools has increased from approximately two and one half million to four and one half million pupils. In our cities as many as three out of four persons of secondary school age go to high school.

Ours is an era of economic change, and to anyone who has no axe to grind it is clear that figures in general have been revised upward in accordance with economic expansion. The national income increased from about sixty-six billion dollars in 1922 to about ninety billion dollars in 1928, which is an increment of about 36 per cent. During the same period, building construction increased about 49 per cent; the number of telephones increased 35 per cent; life insurance premiums increased about 87 per cent; the construction of passenger automobiles increased about 80 per cent, and the cost of education increased about 38 per cent.

Between 1919 and 1927 department store sales increased 36 per cent; mail order sales increased 29 per cent; corporation dividends on common stock increased 48 per cent; the total physical production increased 30 per cent; the output per worker increased 43 per cent, and the amount of savings deposits in all banks increased 200 per cent.

Education Must Keep Pace With Progress

In the publishing industry, newspaper circulation increased 33 per cent; the volume of advertising increased 23 per cent; rates of magazine advertising increased 22 per cent; expenditures for magazine advertising increased 84 per cent, and the total annual expenditure for advertising increased about 50 per cent. The inescapable conclusion from these facts is that if the educational establishments of the nation had not kept pace with progress in other fields, it would have been a serious reflection upon the management of our schools. Would anyone have advocated a decrease in the volume of savings and life insurance, in the national income, in building construction or in department store business? The increasing investment in education is part and parcel of our present order and inexorably follows its trends.

The rise in expenditures for education since 1913

is repeatedly flaunted before us as if this were peculiar to the schools alone. It is pointed out that the cost of public schools between 1913 and 1928 increased 4.2 times, although enrollment increased only 35 per cent. The expenses of the United States Government for the same years increased five times, although the population increased only 25 per cent. This is no far-fetched theoretical comparison dragged in merely for the sake of argument. The taxes of our Government touch a larger number of taxpayers in a much more substantial way than do the local taxes for school purposes. While the tax for school purposes in 1928 was roughly eighteen dollars per person, that for expenses of our national government was thirty dollars per person.

Why Cost of Education Is High

Certain superficial observers have pointed out that the cost of operation of the schools has grown so large that in some municipalities it has exceeded the cost of operation of the city government. The explanation for this is quite simple when one analyzes the most important item in any operating budget, namely, salaries. The expenses of schools are directly dependent upon the increase in school enrollment. For every additional thirty-five or forty pupils there must be an extra teacher, an extra classroom and extra equipment. Police, fire and clerical departments of cities, for example, need not increase in such direct relation to the change in population. Furthermore, it should be remembered that in the last twenty years we have had an unforseen increase in school membership in the upper grades where education per pupil is most expensive.

There is no shred of evidence to support the contention that teachers' salaries are too high. The critics of present salary scales for teachers point out that they have increased about two and one half times since 1913. In this respect the salaries of teachers do not differ from wages in industry. Union wages have increased 261 per cent and wages in twenty-five unorganized manufacturing industries have increased 258 per cent in the same period. The same critics make the mistake of comparing the increase in teachers' salaries with the increase in cost of living, pointing out that the latter has increased about 70 per cent since 1913. If wages and salaries had increased at the same rate as the cost of living, it would have been impossible for the mass of the people to consume the vastly increased output of industry.

The same critics fail to point out how low teachers' salaries were before they began to show these normal increases. From the nineties to 1914 the earnings of teachers showed a gain of 25 per cent. But the increase in cost of living during the period of the war swept this gain away and in 1918 left teachers' salaries 4 per cent below what they were in the nineties. Teachers did not succeed in restoring their earlier salary status in the two years after the war. It was not until the depression of 1921 that the real earnings of teachers rose above the status of the nineties or of that of 1914. In that year teachers made the remarkable gain of 33 per cent in earnings which, however, was only 5 per cent better than their status in 1914. The next year there was another increase of 17 per cent, bringing the total gain over 1914 to 23 per cent where it remained during the four following years. In spite of this gain, the increase in real earnings of teachers has been less than that of the workers as a whole since 1914.

If we study salary trends in various branches of government service we find that teachers made the greatest percentage gain in salary between 1909 and 1925. A further analysis of the data, however, shows that in 1909 the average salary of teachers was considerably lower than that of any other class of government employees and that in 1925 it still ranked the lowest, but the gap, fortunately, was not as great as it was in 1909.

How do the salaries of teachers compare with those of other callings? For purposes of comparison I am using the figures for the year 1926 which falls approximately in the middle of the business cycle preceding the present depression. The average annual salary of teachers was $1,275; the average wages of workers in twenty-five manufacturing industries was $1,309; the average salary of United States Government employees was $1,809; the average salary of high grade clerical workers was $1,908, and the average salary of physicians was $3,250.

More Men Teachers Are Needed

It is generally agreed that the teaching corps of the nation should include a substantial proportion of men, particularly in the secondary schools. It would therefore be interesting to study how our fiscal policies have attracted men into the teaching profession. In the decade before 1890 men made up 34.5 per cent of the nation's teaching staff. In 1920 the real earnings of teachers were 19 per cent below the 1914 level. In the same year the percentage of men in the teaching profession fell to 14.1. In 1925 the real earnings of teachers rose to 30 per cent above the 1914 level. While this was not sufficient to attract a great body of men to school work, it did raise the proportion to 17 per cent.

I have pointed out at the beginning of this discussion that we must maintain predepression standards of salaries for at least two more years

because of the expectancy of an upward trend in business, but we have an immediate obligation to relieve the depression by increasing the demand for consumers' goods. Any curtailment of salaries is harmful to the community as a whole because it reduces the purchasing power of a group of buyers who in ordinary times buy to the capacity of their income in order to maintain a superior social standard. The President of the United States, economic authorities everywhere and industrial leaders are opposed to cutting salaries temporarily or permanently.

In searching for the causes of the increase in cost of education, I have already pointed out that wages and salaries in general have increased about 250 per cent and that education like business has expanded its sphere of operation. I have yet to discuss increase in enrollment as a cause of higher educational costs. It has been pointed out in public discussion that the increased number of pupils in schools can account for only a portion of the increase in the cost of education. Obviously, this is true, for if it were not, there would be no justification for this extended discussion. Yet it is necessary to point out that the increase in enrollment is a larger factor in the present cost of education than is indicated by the mere percentage increase.

In the years between 1910 and 1928, the high school enrollment increased 327 per cent. From the point of view of local school costs an increase of one high school pupil is equivalent to an increase of 1.4 to two elementary pupils. Indeed, conservatively estimated the increase in enrollment in high school pupils in the last twenty years accounts for over a half billion dollars of the total current cost of operating schools exclusive of any other factors. Now, the question reduces itself to this: Shall we discontinue free secondary education? Shall we repeal our compulsory attendance laws? Any man of normal intelligence and observation realizes that the American tendency is to make education increasingly universal and to prolong the period of formal schooling.

Education and Prosperity

So far I have not discovered that the cost of education is increasing faster than any other expenditures, public or private, but if normal business conditions are resumed and if the national income continues to increase, it would not surprise me to find an acceleration in educational expenditures. It would be exactly what one would expect of our national economy. The data of the National Bureau of Economic Research demonstrate that as family income increases the larger is the expenditure for housing, comforts and education. Since the nation is made up of the sum total of all of its families, one would naturally expect it to reflect the same distribution of expenditures.

To summarize, my investigation into the subject of the general cost of education leads me to the conclusion that there is not the slightest basis for anxiety. The facts so far brought to the attention of the public have presented a picture of distress when there is no conceivable basis for it. The figures of rising costs for the most part have been true mathematically but economically and realistically false. Education as an investment has risen in cost in the same proportions as have most other private and public investments. School costs have followed the general economic growth of the nation, the taxing policies of large centers of population and the changes in the nationwide professional standards.

Keeping Salaries Up Is Sound Policy

The present depression is an open season for attacks on wages and costs in general, as all previous similar periods have been. The remarkable thing about the depression of 1920-21 was the demonstration that keeping salaries up speeds business recovery. Thus far the onslaught on wages has been held in check tolerably well.

Teachers' salaries have risen in the same proportion as wages and salaries in industry. Wages and salaries have been revised upward in the last ten years in order to take up the surplus in the production of consumers' goods. Any downward revision would be equal to engaging in a conspiracy to bring on economic disaster.

In America the tendency has been to make education on all levels available for the mass of people. In the last few years the increase in enrollment has been chiefly in the upper grades where education is most expensive. This tendency is bound to increase because of the steady rise in the standard of living, the increase in the number of well qualified persons seeking jobs and the lack of room in industry for all the youths of the nation. The schools of the nation have answered the challenge of this extraordinary period in our industrial history and the answer they have given is progress within conservative financial limits.

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When and How Shall the School Floors Be Cleaned?

Complete instructions as to the best cleaning methods to use on wood, terrazzo, composition and cement floors are given in this third article on the care of the school building

By CHARLES E. REEVES, Elmira College, Elmira, N. Y.

BECAUSE of the bad effects of water upon wood floors they should be scrubbed only as often as is necessary to keep them clean. The needed frequency will depend upon the method of treatment and the method of daily cleaning.

If floors are waxed they will not need to be cleaned with water at all. This is true also if a high grade of oil containing cleanser is used, for the more frequently the treatment is applied the cleaner the floors will become, provided they are thoroughly clean when the treatment is first applied. A high grade of deodorized kerosene or other petroleum product is often used as one of the ingredients of the best quality of oil and cleanser. A high grade of kerosene alone is a good cleanser for oiled floors if it can be properly deodorized and protected against oxidation. It readily combines with the old dirty oil to form an emulsion and brings the oil from the pores of the wood to the surface where it can be removed. Kerosene has an advantage over water as a cleanser in that it, itself, serves as a good floor preservative as well as a cleanser, without swelling, warping or checking the boards, which often results when water is used.

In school buildings where the ordinary oil containing vaselin is used, floors must be cleaned with kerosene or thoroughly scrubbed three times a year, before each application of oil. Such oil becomes black at places where floors receive little or no use, forming a viscous coating through which the freshly applied oil will not penetrate. Hence, the necessity for the complete removal of all the old oil before the new is applied.

When Mopping Is Necessary

Cement, terrazzo, composition and other such floors of corridors, rooms and stairs, and even wood floors that because of their peculiar use must be left untreated, should be mopped once a week if they are to be kept clean. It may even be advisable to mop them each day, since mopping will require but little more time than sweeping. A thorough scrubbing with a brush should occasionally take the place of mopping to prevent the adherence of permanent dirt. Water will not harm floors made of most materials other than wood. Often wood floors that must be mopped and scrubbed because of the peculiar use to which they are put, have become injured by the frequent and continued application of water. Such floors should be scraped and sanded until they are smooth, or else relaid.

Conditions That Affect Scrubbing

If floors of corridors, stairs and some special rooms are mopped, this work may be performed during school hours when pupils are in classrooms. Scrubbing to remove oil should be performed during vacation periods just prior to the application of new oil. Time should be allowed for the floor to become dry before the new oil is applied.

Smooth floors can be more easily scrubbed and mopped than rough ones. If floors have been worn excessively in aisles or under seats, or have become checked, cracked and warped they should be sanded smooth or replaced by new boards.

From the standpoint of scrubbing and mopping, movable furniture is to be preferred. During the summer vacation even stationary furniture may be removed for scrubbing and oiling, but during the Christmas and Easter vacation periods the time is usually too short to make the removal of stationary furniture practicable. It is impossible to scrub a room thoroughly when stationary furniture remains in it, for the portions around desk legs where there has been the least wear and where the dirt is protected from the floor brush in daily cleaning, are also protected from the scrubbing brush by the desk legs.

The hand scrubbing brush is a time waster and will seldom produce effective results. Scrubbing on the hands and knees became out of date long ago as far as ordinary floors are concerned. It may

be found necessary, however, to use the hand brush and the hand mop cloth in cleaning stairs where better methods cannot be used advantageously. If this method is used for the cleaning of stairs a great deal of time must be given to the work and much energy must be expended in order to obtain fairly presentable results. Even then, the electric scrubbing machine, with all its disadvantages for cleaning stairs, will produce better results in less time.

What Are the Best Tools?

The long handled scrubbing brush is but little better than the hand scrubbing brush from the standpoint of time and energy required in scrubbing. The results of cleaning with this brush are even more unsatisfactory.

Scrubbing cannot be performed with mops. Mops have a legitimate use in removing from unoiled floors dust that is not removed in sweeping, or they may even be used sometimes on other than wood floors in lieu of sweeping, but their use for scrubbing floors to remove dirt that adheres closely to the floor is inadequate. For the periodic cleaning of oiled floors, the most common method in many schools is the use of cord mops and strong cleansing solutions.

Strong chemicals, such as lye, oxalic acid or even the stronger cleansing and bleaching powders that are on the market are especially injurious to wood floors. It is not necessary to bleach floors by chemical action unless it is desired to get them in condition for waxing, when they will never again need to be cleaned with water. Cleanliness obtained by mechanical means is all that should be required. The use of a weak cleansing solution together with a vigorous brushing with a stiff bristle. not fiber. brush is best.

The amount of weak cleanser, such as soap chips or bar soap, to be added to the scrub water, will depend upon the amount and character of the dirt to be removed. A larger proportion of the cleanser must be added to remove dirt that has worked its way into the pores of the wood, and this is especially necessary to remove old oil from floors. Two or three quarts of soap chips to a sixteen-quart pail of water will not be too much for extremely dirty floors.

Advantages of the Electric Machine

While the condition of a floor will determine to some extent the amount of cleaning solution needed, a sixteen-quart pail of the solution will ordinarily clean the floor of one classroom, or about 700 square feet of floor area. Proportions of cleanser and water used for the floor of one room should be maintained for all floors that are equally dirty.

Because of the deleterious effect of strong cleansing solutions upon the wood fiber of floors, it is necessary to eliminate all methods of cleaning that depend principally upon chemical action and to search for adequate mechanical means of cleaning floors. As a mechanical means of cleaning floors no one would maintain that a mop will be effective. Obviously its only purpose is to remove loose, not permanent, dirt. Of the mechanical means of cleaning, we have already considered the hand brush and the long handled brush and found them ineffective and time-consuming, without the aid of strong chemicals. A fourth method for the scrubbing of floors needs consideration.

The use of the electric scrubbing machine[1] seems to be the only satisfactory method of removing permanent dirt by mechanical means. It is more rapid than any hand method unless strong chemicals are used, it requires less effort and the results are far better than are those obtained by any hand method. The advantages of the electric scrubbing machine over hand methods are that (1) the weight of the machine displaces muscular force of the operator, (2) the brush is larger than brushes operated by hand, (3) the brush moves many times faster than a brush operated by hand, (4) electrical energy is substituted for human energy, (5) rest periods may be dispensed with, since guiding the machine is not fatiguing, (6) the work is more pleasant than scrubbing by hand, (7) the floor may be saved by the more sparing use of water and by the elimination of the use of strong chemicals and (8) the electric machine may be used for other work, such as scraping and sanding, and waxing and polishing floors and furniture, when the proper attachments are used.

Other Practical Suggestions

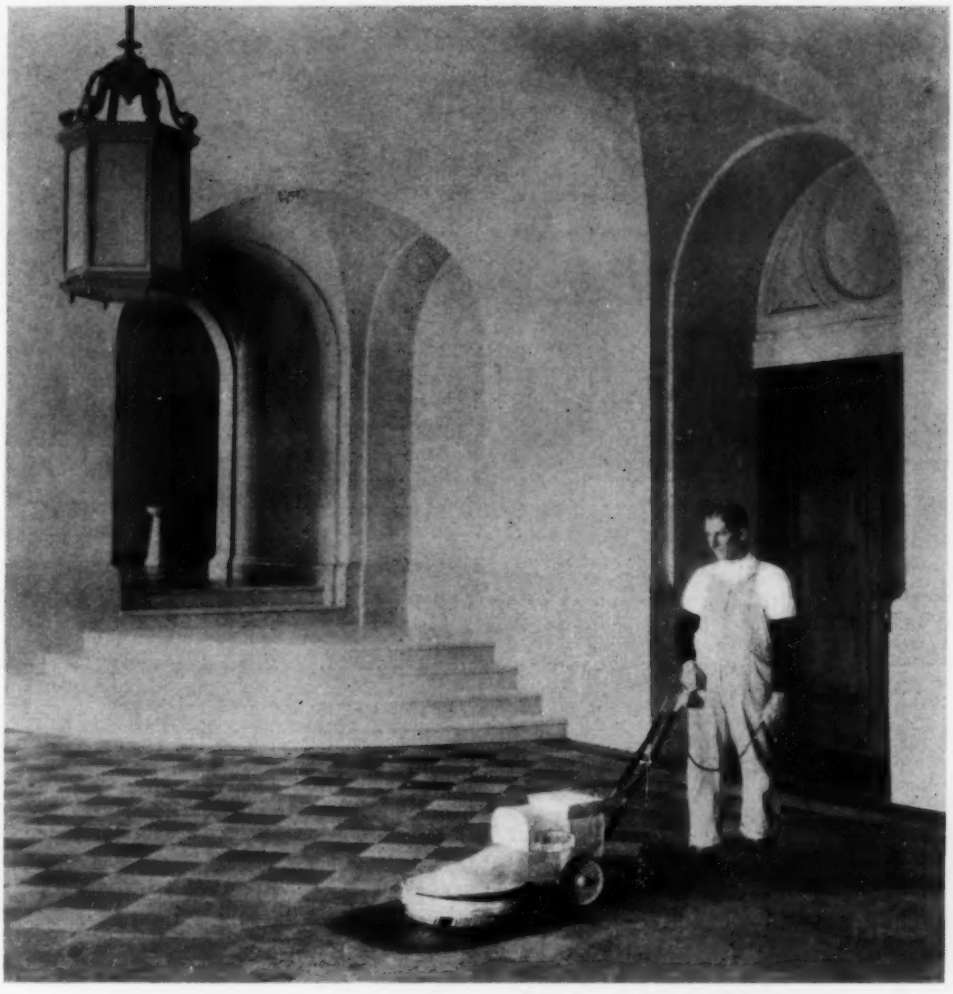
The need for the frequent scrubbing of floors that are left unoiled, such as those of kindergartens, domestic science rooms and sometimes corridors, as well as for the thorough cleaning of oiled floors, would seem to warrant the small expenditure necessary for obtaining and operating the floor machine. The use of electric floor machines in schools has rapidly increased during recent years and there is every reason to believe that, with improved standards for the care of school buildings, their use will continue to increase and they will soon be considered as essential equipment in every school building.

It is important that wringers be used for the wringing of mops regardless of the method of scrubbing that is used. A wringer should be at-

[1]For studies concerning the use of the electric machine as compared with other methods of scrubbing, see Reeves, C. E., and Ganders, H. S., School Building Management, pp. 124-235, published by the Bureau of Publications, Teachers College, Columbia University.

tached to a heavy pail to hold the dirty water being wrung out of the mop. There are a number of different kinds of mop wringers. Any of them is far superior to wringing mops by hand as is often done, but some kinds of wringers seem to be superior to others. In general, a wringer of the "bulldog" type, operated by means of a foot lever, is preferable to other kinds.

Wood floors should never be flushed with hose, for the application of so much water injures the wood. Cement or other hard floors can be flushed with hose only if there is a sewer drain and if there is no woodwork or furniture to be injured by the excess dampness resulting from its use. A furnace room floor may sometimes be flushed satisfactorily.



Cleaning floors at the University of California, Berkeley.

In all scrubbing and mopping of wood floors, water should be used as sparingly as possible, consistent with the obtaining of effective cleaning results. The economical use of water will minimize the bad effect due to scrubbing and mopping and it will also cause less soaking, swelling and warping of the boards.

Water should never be allowed to remain on a floor. It is better if two men can clean the same unit, one with a brush to loosen the dirt and the other to follow closely behind with mops to remove the dirty water, rinse the floor and wipe it as dry as possible. If one janitor performs the work alone he should scrub a small space and rinse and mop it up before proceeding to another space. There are two reasons for this: first, water should not be allowed to stand on the floor any longer than is necessary, because the longer the floor is wet the more water will soak into the wood, and second, the dirty water should not be allowed to dry on the floor because if it dries it is more difficult to remove with a mop.

The points, then, that should be remembered in the cleansing of floors, are briefly summarized as follows:

1. The scrubbing and mopping of wood floors should be performed only as frequently as is necessary to keep them clean because of the bad effects of water upon wood. With some methods of preservation, floors will never need to be scrubbed.

2. If a poor grade of oil is used for treatment, floors should be thoroughly scrubbed three times a year immediately preceding the application of oil. A high grade of oil may contain a cleanser, making scrubbing unnecessary.

3. Cement, terrazzo and other hard floors should be mopped weekly, or better daily, and should frequently be scrubbed.

4. Movable furniture in the classroom is to be preferred to stationary furniture from the standpoint of facilitating the processes of cleaning the floors.

5. Strong chemicals, such as lye and oxalic acid, are injurious to the floor and should never be used. Dirt should be removed by mechanical means with the aid of a very weak cleansing solution.

6. The use of an electric scrubbing machine is both more effective and more economical of time and energy than the use of any kind of hand scrubbing brushes.

Is Missouri Looking Forward or Backward Educationally?

The present situation in Missouri is termed "tragic" in this article which deplores the "gross inequalities" that are retarding the progress of the state in the march of education

By W. W. CARPENTER, Professor of Education, and BOWER ALY, Instructor in English, University of Missouri

THE constitutions of Missouri have recognized education as a state responsibility. The earliest constitution provided that "schools and the means of education shall be forever encouraged in this state." The present constitution includes this statement:[1]

"A general diffusion of knowledge and intelligence being essential to the preservation of the rights and liberties of the people, the general assembly shall establish and maintain free public schools for the gratuitous instruction of all persons in this state between the ages of six and twenty years."

Acting in compliance with the principles enunciated in the state constitutions, the general assemblies have regularly exercised their responsibility by providing directly and indirectly for the education of the children of the state. These provisions indicate clearly the interest of the state in the children of the state regardless of where they happened to be born or where the occupation of their father determines that they shall reside.

What the Legislatures Have Done

The legislatures of Missouri have not only recognized the principles of the constitutions, that every child in Missouri has the inherent right to attend school, but they have also recognized the importance of assuring this sacred right to every child. Not only have the legislatures passed compulsory attendance laws, but they have made it possible to set up the machinery to see that these state requirements are adhered to. Numerous so-called child labor laws protect the children of the state from parents or guardians who might be inclined to profit by the labor of the children and thus deny them their sacred inheritance. Considerable legislation has been enacted which aims to protect them from the hazards of harmful occupations when they do enter industry.

Missouri legislatures have also made many provisions for the health and safety of school children. They have in addition made provisions for consolidation of small districts into larger ones, they have made provisions for transportation, and they have assumed a large responsibility to the child for providing him with a trained teacher through the support of teacher training agencies and through methods of teacher certification.

Education Has Been Encouraged

The present constitution of Missouri not only directs the general assembly to provide an educational system, but it recognizes the state's responsibility for assisting in the financial support of this system in that it provides that "in no case shall there be set apart less than 25 per cent of the state revenue . . . to be applied annually to the support of the public schools."[2] For more than forty years Missouri has gone beyond the constitutional requirement and has appropriated one-third rather than one-fourth of state revenue to her public schools.

Missouri has been interested in local self-government of the units of the educational system which it created. It has, therefore, delegated to these units broad powers that have included the right to levy taxes up to a limit for the support of education locally. It has never attempted to "deny the right of any school district to provide a more adequate education than the state itself demands."[3]

As time passed and much of the wealth of the state shifted toward the large cities it became difficult for outlying districts to make the educational offerings prescribed by the state. With the local resources exhausted, the only alternative was to offer an inferior type of service by providing a poorly trained teacher, by reducing supplies and equipment, by shortening the term or by a combination of these adjustments. At this point the state

further demonstrated its acceptance of responsibility for the education of all of its children by attempting to equalize the burden to those districts which found it difficult or impossible to make the state's minimum offering. There were, however, serious drawbacks with the plans evolved, as the following statement indicates:

"In many instances they (attempts at equalization) required the districts to levy the maximum tax before the state stepped in to make available sufficient funds to operate the state's minimum program. This exhausted the taxing power of such districts and they were therefore denied the privilege of local self-government. They could not exercise local initiative by offering a program of education superior to the minimum program."[4]

Missouri accepts the principle of equalization of educational opportunity, but the following excerpt shows that the plan did not go far enough:

"The present state equalization program of educational opportunities is not statewide, but only applies to certain types of districts. Furthermore, the general assemblies in enacting school equalization laws have never divided additional funds. The equalization funds have always been taken from the general school fund."[5]

In addition to diverting the general school fund into an equalization fund, an added hardship was created for the districts of the state that could not qualify in that from 1922 to 1927 the total state school money apportioned to the public schools decreased from $5,146,839 to $4,095,791.[6] Diverting money from this fund decreased the amount available for distribution on the basis of the teachers' quota and attendance quota to $2,044,256, whereas it was $4,370,790 in 1922.[7]

Disappearing State Aid

"Stated in terms of percentages the state contributed 11.9 per cent of the total bill for public elementary and secondary education in Missouri in 1921. By 1924 the proportion had decreased to 8 per cent; by 1926 to 4.3 per cent and by 1927 to 3.7 per cent. These percentages forcibly show what amounts to the practical disappearance of the state's contribution to public education so far as all the schools of the state are concerned."[8]

The effect of this change on the large number of schools of the state is indicated by the following:

"As the state effort for education decreased the local taxes had to increase and in many communities far beyond the constitutional limit. . . .

"In 1926-27 there were 243 of the first-class high school districts which could not organize under the consolidation aid law. Twenty per cent of these districts paid a higher school tax levy for current expenses than is permitted by the state constitution and 30 per cent did not raise enough money by voting the constitutional limit to pay the current expenses of their schools. The remainder of the non-consolidated first-class high school districts usually voted the maximum levy of $1.

"The 324 consolidated first-class high school districts practically always voted the constitutional limit and received state aid up to $50 per pupil in average daily attendance which is less than the average cost of education in Missouri. Many of these districts carried deficits in current expenses.

"The decrease of state school support has also caused many rural districts to pay a higher school tax than is provided in the constitution. Some of the rural districts elected to have less than an eight-months' term after voting the maximum levy."[9]

How Missouri Ranks Among the States

A recent study of the situation in the country as a whole indicates that Missouri ranks very low when compared with other states in the Union as to the total distribution to elementary and secondary education:

"There are thirty-nine states which, according to the latest data available, appropriate more than the state government of Missouri does for the support of public schools. Furthermore, six of the states ranking below Missouri in state effort, Oklahoma, North Carolina, Colorado, Ohio, Nebraska and Kansas, provide for some form of county school taxation. Therefore Missouri probably requires more effort on the part of the local school districts than any other state except Iowa and Rhode Island.

"Missouri is one of the few states with a low state contribution to the public schools and no county-wide school taxation of any form."[10]

The loss of state money, even though the amount received is not large, is further harder to bear by many of the districts in the state on account of the decrease in the local total valuation as is indicated by the following situations:

"In regard to the financial condition of the Kingston Public School, we have been approaching a crisis for some time. Our valuation has decreased from $751,000 to $470,000, which makes it impossible to maintain any longer a first-class high school in our community."

"Within the last four years the assessed valuation of our Gainsville District has shrunk from $800,000 to $620,000. During the same time our state aid has dropped from about $2,400 to about $1,200 a year. All together this means that we have approximately $3,600 less money with which to run our schools than we had four years ago."

"The financial condition of our district is alarming. We are voting a levy that is far beyond the constitutional limit and we shall not be able to meet

all expenses this year. Our district will be badly in debt at the close of the current school year."

"Our aid from the state, based on average daily attendance, was this year about 20 per cent less than it was last year."

"The schools of Randolph County are facing a financial crisis. Huntsville has had to increase its local levy three times since 1922 to meet decreases in the state fund. We received $3,004 from the state on the basis of attendance in 1922 and only $293 on the same basis in 1927. This loss is equivalent to the salaries of four of our eight grade school teachers. Our levy is $1.30. Our valuation has decreased from $1,715,000 to $1,100,000 in the same period."

" . . . The December (1928) tax collections were less than one-half of the preceding year's, which in turn was 26 per cent less than its preceding year.

"The state aid received this school year was 25 per cent under the amount of two years ago."[11]

The following figures indicate the impossible task which is given to a large number of school districts in Missouri:

"In 1927-28 there were 14 districts with an assessed valuation of less than $10,000; 69 districts with from $10,000 to $20,000 assessed valuation; 17 with from $20,000 to $30,000; 382 with from $30,000 to $40,000, and 470 with from $40,000 to $50,000 assessed valuation. In the districts having $10,000 assessed valuation, the constitutional limit of sixty-five cents tax would have produced $65. If these districts had received state aid up to a maximum of $300, they would have had only $365 for the maintenance of their schools. Even in the case of the districts having $50,000 assessed valuation, if a tax equal to the constitutional limit were levied, it would produce for teachers' salaries and incidental purposes only $325. If there were added to this amount state aid up to a maximum of $300, the total amount available would be $625. It is not possible, either with $365 or with a maximum of $625, to maintain a good school. The only solution available is the provision of support on a statewide basis."[12]

Missouri's Educational Need

In order to live up to the obligation we owe to the coming generation of young Missourians, we must see to it that our young people, whether they are in the rural schools, the elementary schools, the junior or senior high schools or in the higher educational institutions, are given adequate educational facilities. The educational need in Missouri as a whole is expressed in the following excerpts from the recent report of the members of the state survey commission to the governor:

"If better educational opportunities are to be made available for rural school children, the program of consolidation of rural schools, already begun, must be carried forward. . . ."

"With the development of the larger schools for children living in the rural areas, many of the village and town schools will become larger by the transportation of children to these natural centers. This will mean in many cases the possibility of better education, not only for the rural children but also for those who have attended the village and town schools. With the larger number of pupils, classes can be organized for each year or half-year of work, special provision can be made for those who are handicapped, and a wider range of offerings can be made available for the children in the junior and senior high schools."

What Better Support Would Mean

"With the better support of schools throughout the state should come certainly better trained teachers. . . . The work to be done in rural schools, whether in the one-room schools as they at present exist or in the better and larger schools which should be organized, is quite as difficult as that undertaken in a large city school. There is no reason why the state should be satisfied to provide well trained teachers for city school children and to deny to those enrolled in the rural schools the same quality of professional service. . . ."

"If educational opportunities are to be equalized in Missouri and if the state is to get the most from its investment, it will be necessary to provide more stable leadership both for the state as a whole and for local school systems. . . ."

"In a state the size of Missouri there must be a staff of exceedingly competent professional workers who constantly study the needs of the state and are responsible for giving advice and encouragement to teachers, principals, and superintendents of schools in all local systems. . . ."

". . . the state has accepted an obligation to provide special opportunities for the blind and the deaf at state expense. There are more children who should enjoy these opportunities than are now enrolled in these state institutions. A more complete check-up should be made in order to guarantee to all of these handicapped children the opportunities which the state provides. . . ."

"The people of the state have made a large investment in higher education, represented by the state university at Columbia, the school of mines at Rolla, and the five state teachers colleges. These institutions have served the state well. They are to-day, in every case, handicapped by lack of buildings and equipment. They need more generous support in order to serve the state better. . . ."

"As the situation is at present, Missouri suffers by losing to other institutions many of the ablest teachers from her higher educational institutions. To retain these men and women in the service of the state will require more generous support, both in salaries paid and in facilities made available for teaching and investigation. There is no enterprise in which the state invests its money which more certainly brings returns, than the further education of those who go to the state university and to the teacher training institutions in order to prepare themselves for the professions and for positions of leadership in the business, industrial and political life of the community."[13]

Can the State Pay?

The educational needs of Missouri are quite evident. Better educational facilities should be provided. But, has Missouri the ability to pay for such provisions? How does she rank in ability with the other states of the Union and with comparable states?

"On wealth per child of the ages of six to twelve, Missouri in 1922 was 4 per cent better off than the average state with $18,480.80 as against $17,618.56 for the average state. All the wealth figures of the Federal Government by states are based on the 1922 wealth census, which will not be repeated for some years. From these and other trustworthy sources, the research division of the National Education Association has made an estimate of wealth by states for 1926. According to this estimate, the wealth of the United States increased from $313,-021,560,000 in 1922 to $375,000,000,000 in 1926. Similarly, Missouri increased from $9,981,405,000 in 1922 to $11,895,000,000 in 1926. For these figures, Missouri's increase is 21.2 per cent or better than the increase of 19.8 per cent for the United States.

"As the average daily attendance of school children in Missouri is decreasing, Missouri's standing on wealth per child ought to be rising relatively.

"Moreover, according to Norton, the state has for over a generation been growing relatively wealthier among the states. By use of an index which counts the wealth per child of school age for the average state as the base, he has measured Missouri's wealth in different years. According to this, Missouri was in 1922 a fifth wealthier per child than in 1900 and a third wealthier than in 1880, as compared with the United States."[14]

Missouri is undoubtedly at least average in the United States and probably considerably higher in ability to support education. How does Missouri stand on effort to support her schools?

"Effort to support schools is measured by comparing school expenditures with some money measure of ability. For example, effort to support schools may be measured by the percentage of expenditures for such schools on income. This gives a percentage of effort which may be compared with similar effort measures for other states."

"Missouri's effort to support schools, measured in various ways, has not been up to that of the average state, and noticeably below that of the comparable states. As Missouri has at least average ability or better, this means that the state has not been living up to its ability on school support."[15]

A recent study of the data contained in one of the latest research bulletins issued by the National Education Association reveals the following facts as to Missouri's rank in comparative effort:

"If expenditures for life insurance be taken as an index of each state's ability to support education, then our state ranks forty-first in effort. If expenditures for the construction of buildings be considered as an index of ability, then we rank forty-fifth in effort. Considering expenditures for passenger automobiles as an index of strength, we stand forty-first in effort.

"When certain luxuries such as chewing gum, tobacco, movies, are taken as an indication of ability, our effort sags to forty-third place.

"Figures from this bulletin also show that only nine states surpass us in total income, and only eight states stand ahead of us in our ranking according to the ratio of Federal taxes to incomes. . . .

"These figures mean that if Missourians spent as liberally for schools as they do for insurance, we could step ahead of thirty-two states that now stand ahead of us in this regard. Thirty-six states that now stand ahead of us would be behind us, if we spent for education as liberally as we spend for building."[16]

Greater Effort Is Demanded

Missouri has the ability to support the type of educational program guaranteed to each child. The measures of effort just considered indicate that Missouri is not making an effort in proportion to her ability. Any such effort must come from the state as such, since the taxing power of large numbers of districts of the state is now entirely depleted. It is therefore proposed that each school division or district of the state be taxed a uniform rate of twenty cents on the $100 of assessed valuation in order to participate in the equalization fund; that if this, with other state money that the district receives, does not pay the bill for the minimum offering prescribed by the state, the state pay the difference.

In order to determine what should be the cost of a reasonable minimum program for Missouri,

the cost of the program "in those communities of the state that have not been seriously handicapped or unduly favored by the present system of financing public schools,"[17] was taken as the goal to work toward. It was planned to reach this goal in an eight-year period. Any district desiring to have a better program than the minimum could tax itself for this up to the constitutional limit.

Scientific Tax System Is Recommended

The proposed plan of equalization of educational opportunity advises a considerable decrease in the tax on real estate. Real property can no longer bear the burden that it has carried in the past. One of our authorities has this to say about the general property tax:

"The general property tax as administered today is a social and economic scourge which is striking at the foundations of the American home and of our agricultural life."[18]

Another says:

"The general property tax as actually administered is beyond doubt one of the worst taxes known in the civilized world."[19]

The joint report of the legislative committee and the committee on sources of larger revenue of the Missouri State Teachers Association includes these statements:

"We believe that real estate and assessed personal property are now bearing more than their just share of the tax burdens and that the policy of the state should be a gradual reduction in the tax burden upon real estate and assessed personal property. We further believe that the state has sources of revenue hitherto unused that will provide the additional funds needed to carry out the above program without overburdening any taxpayer. We believe, furthermore, that certain types of taxation now used, such as income and corporation taxes, may be increased a reasonable amount without overburdening any group of taxpayers and that such increase would more nearly equalize the burden of taxation so that no group would be overtaxed."

"Since the state of Missouri has ample sources of revenue to carry out the foregoing principles and recommendations without injustice to any taxpayer and without overburdening any group of taxpayers, we recommend the enactment by the general assembly of a comprehensive and scientific system of taxation and revenue."[20]

The importance of the taxing system to the state's school system is clearly indicated by the following:

"Good schools cannot be created merely by the application of faith, hope and charity. Financial support is also necessary and, since public funds are derived almost entirely from taxation, the schools can never be adequately financed if the methods of taxation are ineffective."[21]

The real tragedy of the situation in Missouri is not so much in the fact that there are such situations as are represented in the picture of the old log schoolhouse; it is certainly not in the fact that the larger cities have educational systems ranking among the best in the country. The real tragedy is that in a great commonwealth such as Missouri is, presumably a commonwealth based upon the principles of democracy, there can exist such gross inequalities in educational opportunity as are now manifest in every phase of state education.

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[1]Section 1, Article XI, Constitution of Missouri.
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[4]Ibid., p. 149.
[5]Lee, Charles A., Financing Education in Missouri, 1929, p. 237.
[6]Ibid., p. 235.
[7]Ibid., p. 235.
[8]The Educational Problem in Missouri, School and Community, January, 1929, vol. 15, p. 21.
[9]Lee, Charles A., Financing Education in Missouri, 1929, pp. 235-236.
[10]Ibid., pp. 310-311.
[11]Statements from school board members to the secretary of the Missouri State Teachers Association, 1929.
[12]Eightieth Report of the Public Schools of the State of Missouri, Part 1 and Part 2, Report of the Survey of Public Schools and Higher Institutions, 1929, p. 18.
[13]Ibid., pp. 18-21.
[14]Ibid., pp. 92-93.
[15]Ibid., p. 94. The comparable states selected by the survey commission were Arkansas, Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Nebraska, Ohio, Oklahoma and Wisconsin.
[16]Editorial, School and Community, December, 1930, vol. 16, p. 535.
[17]Eightieth Report of the Public Schools of Missouri, Part 1 and Part 2, Report of the Survey of Public Schools and Higher Institutions, 1929, p. 150.
[18]Swift, Fletcher Harper, American School Board Journal, December, 1930, p. 74.
[19]Seligman, Edwin R., Essays in Taxation, 1925, p. 62.
[20]School and Community, December, 1930, vol. 16, p. 539.
[21]Research Bulletin of the National Education Association, vol. 8, p. 135, May, 1930.

Why Physical Education Teachers Should Teach Health

For the majority of school systems, the physical education teacher should be in charge of health instruction, says *Health and Physical Education*. The reasons given are as follows:

Because physical education classes are compulsory for all pupils. No other class enrolls all of the pupils of the school.

Because the physical education teacher, if properly trained, comes closest to meeting the training requirements in biology, human physiology, hygiene and education so necessary in health education.

Because the personnel of physical education is well developed and health education could save twenty years of haphazard developemnt by affiliating professionally with physical education.

Because the large number of city and rural schools cannot afford to hire two teachers in such closely related fields.

The School Library and Its Part in Enriching the Curriculum

By FRANK A. CHILDS, Childs & Smith, Architects, Chicago

PROPERLY directed, the modern school library seeks to foster initiative in each child, to supply a variety of interest and occupation for leisure hours, creating thereby independence and breadth of thought and action.

As the library should appeal to the emotional rather than to the intellectual side of the child, it should be inviting and alluring in a variety of ways. Occasional round tables, window seats, a few easy chairs around a fireplace bring joy and peace to many a child totally bereft of similar surroundings at home.

Such environment and opportunity are a constant inspirational challenge to those in library work who are specially interested in introducing the joy of reading to children and in imparting something of the skill and breadth of vision that result from the reading of good books.

The library program in the schools of Seattle, Wash., as described by Thomas R. Cole, formerly superintendent of schools in that city, shows that the old idea of the library in the primary grades, which in many cases was mostly ornamental in character and something in the nature of a polite gesture only, is happily being supplanted in favor of one that makes the library practically the heart of all school activities. It is one of the more recent additions to the standard equipment of a pro-

Arched doorways, stained glass windows, a minstrel balcony for Shakespearean presentations and a separate outside entrance for use at night by special groups are features of the conference room in the library of the Nichols Intermediate School, Evanston, Ill. A librarian's workroom completes the department.

gressive elementary school and is fast becoming a necessary accompaniment of an enriched and modified curriculum. It supplements and supports every part of the school organization, just as the public library serves and supports the intellectual and cultural life of the community. It is an essential aid to the realization of the larger aims of education which assume learning to be a continuous process that does not cease when the days of formal education are past.

The library serves, therefore, an immediate practical use in instruction and is one of the agencies that the school uses to help pupils acquire interests and habits that will be the means of lifelong self-education and profitable enjoyment of leisure.

All of the platoon schools of Seattle and some of the nonplatoon schools are equipped with libraries. The public library recognizes thirty-one of these as school branches and has contributed to their shelves a considerable number of books in addition to those furnished by the school district.

Most of the books provided from school funds have been selected because of their value for informational reading. The public library has added books suited for recreational or appreciative reading. The public library assists in the selection of books and furnishes instruction and supervision in library usage. All books are catalogued by the public library.

The reading-library rooms in the Seattle platoon schools are distinctive in their plan and organization. The platoon schools are semidepartmental in

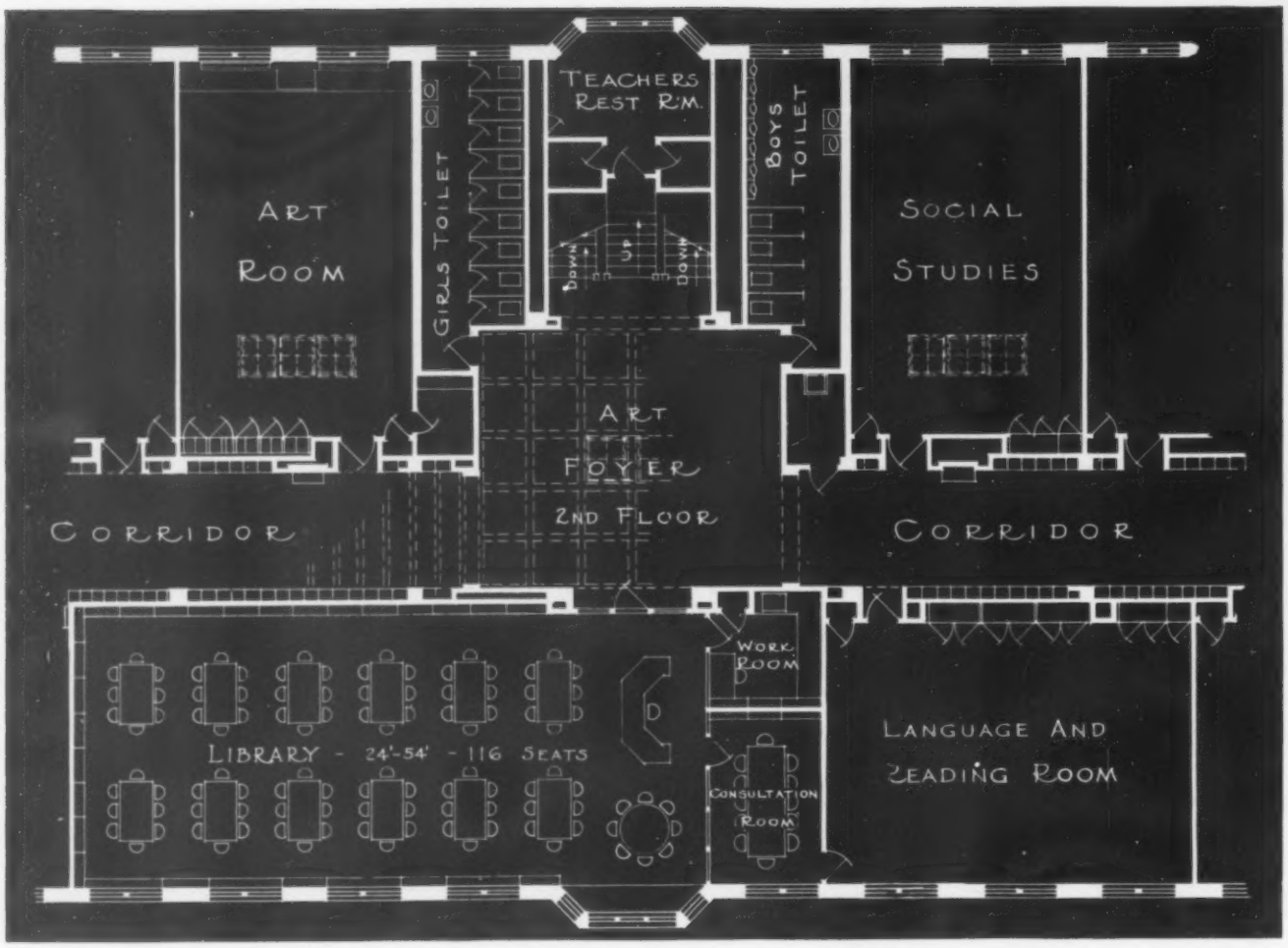
Murals in the library of the Nichols School carry out the general architectural design of the building, which is Venetian. On entering the library one sees a loggia on the Grand Canal showing the Salute Church, gondolas and sea-going ships of the Orient as they existed in the golden days of the history of Venice.

organization, with reading as one of the special subjects. The reading teacher is also the library teacher, and all classes in the platoon organization are scheduled to spend one fifty-five-minute period each day in the library.

The libraries are equipped with tables and chairs instead of the usual school desks. These, with built-in bookshelves, magazine racks and, in new buildings, linoleum floor covering, help to create the setting and atmosphere of a working library.

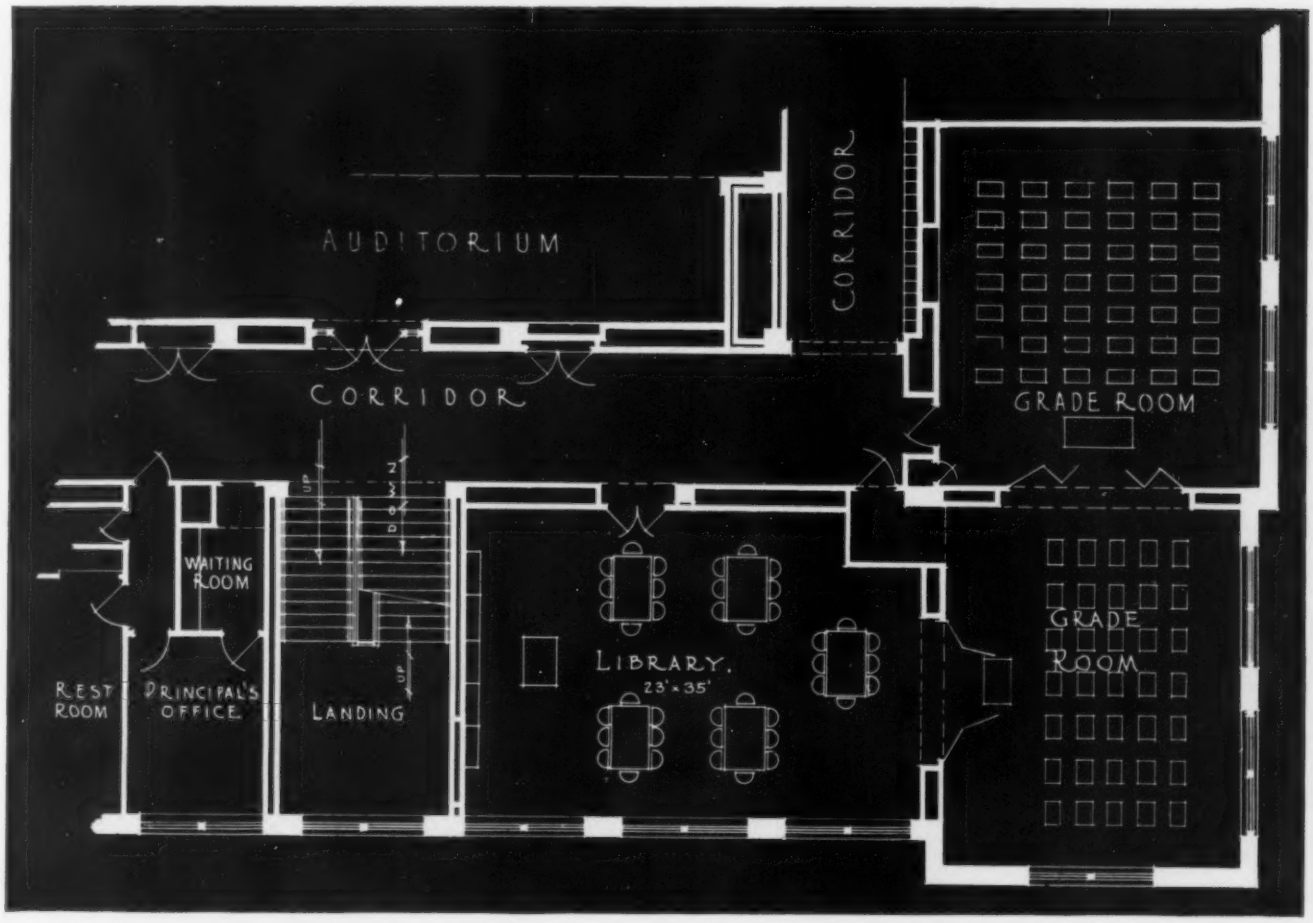
The time spent by a class in this room is divided between formal instruction in reading and the varied activities that a library suggests. The successful library thus becomes both a stimulus to overcome reading difficulties and a satisfaction to those who can enjoy its resources, a dependable source of information and a congenial environment in which to work. From the time that the doors open in the morning, the room is in continuous use throughout the day. The larger schools require two reading-library rooms, one for an upper group of classes and one for a lower group.

The function of a reading-library room, therefore, is to bring within reach of all children a well selected collection of supplementary and reference reading material suitable for their different grade levels, and to make easily available the best books of a more literary type, both prose and poetry, that children enjoy reading. Informational books contribute to every subject on their day's program, while free appreciative reading gives to children vicarious experiences beyond those of their own



The arrangement that has been planned for the library of the Monroe Elementary School, Hinsdale, Ill., is shown in the plan. A general view of the Nichols School library appears below.

Special size desks and chairs and tasteful decorations feature the library of the Cossitt Avenue School, La Grange, Ill. Below is a plan of the Tappan School library, Ann Arbor, Mich.



lives, thus suggesting appropriate standards for a broad interpretation of the situations and conditions that occur in life. The use of library books is not confined to the reading-library room. The books are freely loaned as needed to any classroom that has a special use for them.

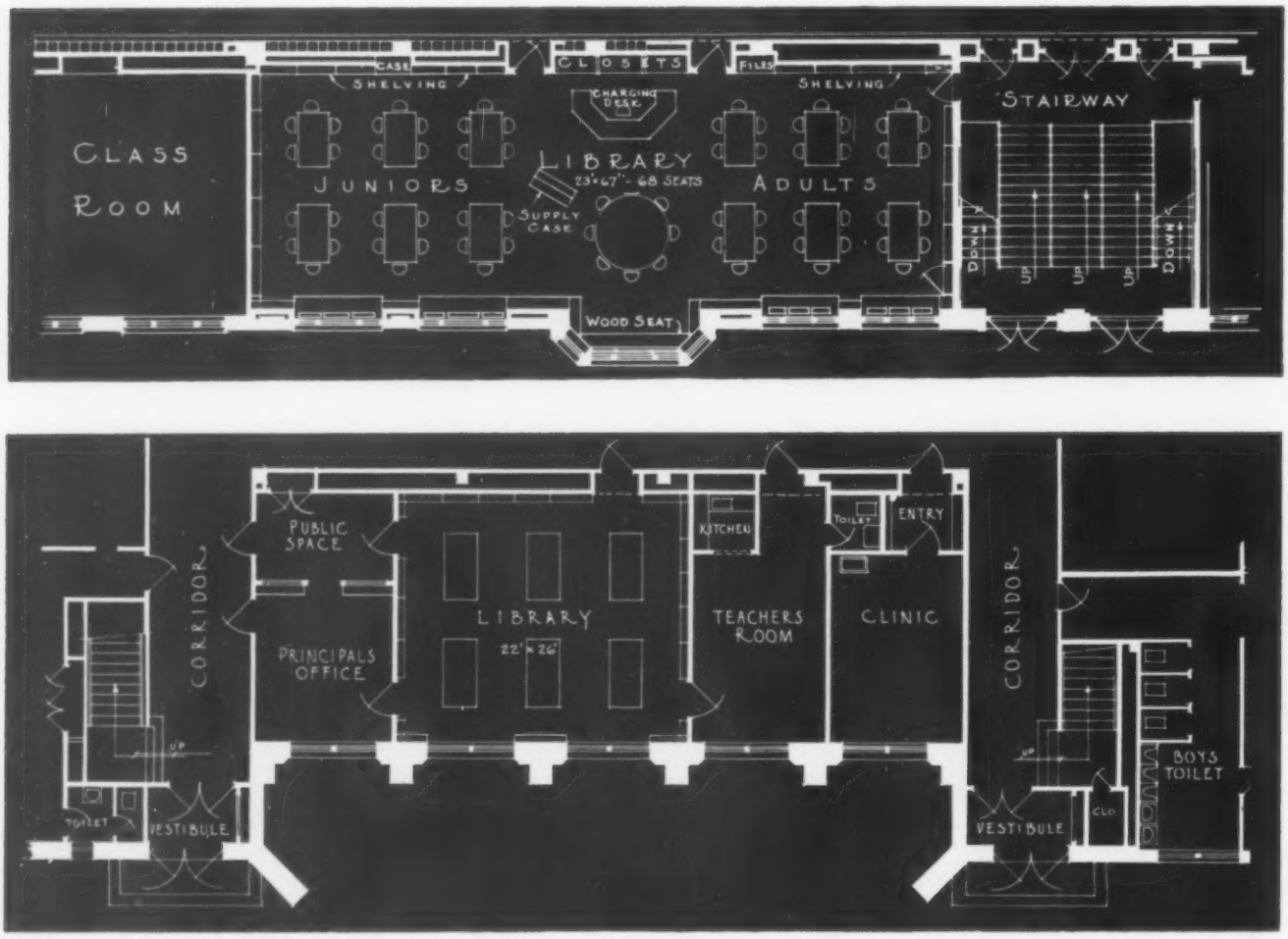
It is the function of the reading-library teacher to give pupils such formal instruction in reading as they may need, to guide them in the selection and use of the reference material they require to facilitate their work in other subjects, and to counsel and encourage them in their free reading of general literature. In the reading-library room, children are taught how to use books and how to utilize the resources of libraries. They are encouraged to make use of the public library if the main library or a branch of it is within their reach.

The controlling purpose of the whole reading-library program is to provide the conditions that are most favorable for children to acquire habits of independence and self-direction, and to gain a power in reading and study that will be a life-long resource. Beyond its utilitarian values, its final appeal is to the emotions. Its ultimate purpose is to bring to each child at the opportune moment the best that literature has for his appreciation. The real quality of its service is measured in terms of interest stimulated and habits formed. Enthusiasms are contagious, but are not to be imposed. The reading-library teacher needs to bring to her work, beyond the standard requirements for teaching, ability in oral reading, skill in story-telling, and a natural love of literature.

How Library Should Function

The library is a prime factor in the social as well as in the academic life of the junior high school. The objectives of library service are to enrich the curriculum by providing library service to pupils and teachers; to obtain and organize library materials; to give instruction in the independent use of libraries and books as tools; to share with other departments responsibility for social training; to develop the library habit; to foster informational reading as a life habit; to encourage the habit of reading for pleasure.

There are many ways in which library activities supplement classroom work. The library is always open to individual pupils sent from study hall or classroom; to groups at work on special sub-



Two well planned libraries are those of Haven Intermediate School, Evanston, Ill., shown above, and Miller Avenue Grade School, Ann Arbor, Mich., below.

Elementary school libraries, Seattle, Wash., pictured here, are well lighted and adequately equipped.

jects; to classes accompanied by their teachers for free reading or reference work (all reading and literature classes have one free reading period a week in the library); to pupils excused from gymnasium or sent by the nurse.

The library arranges and circulates pamphlet material on curriculum subjects. It lends books, magazines and pictures; material to teachers and pupils for home and classroom use; large classroom sets when the teacher is presenting a new unit; smaller classroom sets for an indefinite period; overnight reference books to pupils. It provides reserve shelves for special subjects, as requested by teachers; permanent segregation of books on community and occupational topics; space for teachers' professional books and magazines; ma-

terial for club work; bulletin space for activities; reading and study room before and after school and during the full lunch period. This privilege is used by 400 children each day.

Among the activities of the library are the preparation of lists, fictional and factual, for pupils and teachers; supplementary lists for units; collections of books in advance for visiting classes.

Additional reference aid and guidances along "special interest" lines are given to pupils, and the attention of teachers is called to new books and magazine articles in their field of work.

The book collection is supplemented with daily loans from the main public library amounting to more than 100 books a month. All the privileges of the central public library collection are granted to the junior high school libraries and an assistant in the schools spends several hours a day filling junior high school requests.

Pupil instruction in the use of the library is given as follows:

To entering 7B classes—(1) introduction, welcome by librarian, display of library resources; (2) function and use of library, public library and school library, general reading, reference reading, instructions for borrowing; (3) citizenship, respect for books and library, respect for rights of others, helpfulness; (4) classification and arrangement of books; (5) some important reference books; (6) use of card catalogue; (7) practice questions involving the use of catalogue and finding books.

To eighth grade classes—making of bibliography, supplemented by classroom practice.

To ninth grade classes—use of *Reader's Guide to Periodicals*, supplemented by classroom practice.

A Glimpse of To-morrow's High School

The high school of the day after to-morrow will devote itself to providing only general education —general education of several somewhat different kinds needed by young persons quite apart from the specialization of later vocations, is the belief of Dr. David Snedden, Teachers College, Columbia University, whose views are set forth in a recent issue of the *Forecast*.

The next step after the broadened, enriched, modernized program of the high school, according to Doctor Snedden, will be training in a specialized vocational school which may be some distance from the student's home. There will be a few of these vocational schools in each state. They will prepare students for any one of several hundred distinct vocations—from carpentry and shoe selling to restaurant cooking. Such vocational training will not begin before the student is sixteen years old.

In the high school itself, there will be special provision for pupils of less than superior abilities and for pupils who are unusually bright. The studies will be designed to bring about individual development rather than offered principally for their mental disciplinary effects.

Such things as sports, debating, dancing and music clubs will no longer be extra-curricular activities. They will be a definite part of the school program.

The type of education would in no way interfere with college training, Doctor Snedden believes. The college would take the student further and provide more general education, particularly for those who aspire to leadership.

When Schoolmasters Were Bought and Sold

Time was when the schoolmaster was not held in the same high regard in which he is held to-day, says a recently issued booklet on "The History of Teacher Placement." A glimpse into the early history of the colonies reveals the schoolmaster as a man of all work, and in many instances a slave bought and sold in the open market.

One Massachusetts town, for instance, required the schoolmaster to perform the following duties in addition to his actual teaching: to act as court messenger, to serve summonses, to conduct certain ceremonial services of the church, to lead the Sunday choir, to ring the bell for public worship, to dig graves and to perform other occasional duties.

In the Southern colonies the main source of supply was the bondsmen or redemptioners—mostly English criminals—who were indentured to what was practical slavery. The condition is shown by the following advertisement, which appeared in a Southern colonial newspaper: "Ran away: a servant man who followed the occupation of schoolmaster; much given to drinking and gambling." And schoolmasters did not usually fetch so good a price as weavers, tailors and other tradesmen. Among those who bought a bondsman for educational purposes was the father of George Washington—this bondsman being Washington's first teacher.

In New York the Dutch West India Company sent with its first military force a minister and a schoolmaster. This schoolmaster added to his slender salary by taking in washing. When he became involved in scandals and was banished, he was succeeded by a carpenter who taught the school for a number of years.

Analyzing the Value of State Aid for School Projects*

An appraisal of the effectuality of state aid for special school projects in six states, with special reference to Wisconsin

By CLARENCE O. LEHMAN, Ph.D., Director of Training and Head of the Education Department, State Normal School, Geneseo, N. Y.

IN PREVIOUS articles the current practices and trends in the disposition of state funds for special school projects in the various states of the country have been discussed.[1]

If we should evaluate the reasons the various members of state legislatures and officials of state departments of education would give for tendering state aid to local school communities for the initiation and maintenance of special school undertakings, without question those that would receive major emphasis would be stimulation and reward for effort. Obviously, state aid given to special school undertakings for the sake of stimulating new educational activities is justifiable, provided such aid proves to be efficacious as a stimulant. It necessarily indicates its effectuality if there is a widespread inauguration and maintenance of such activities throughout the various school communities of the state.

How States Were Chosen

It has been my purpose to set up reasonably valid standards whereby the efficacy of this stimulation can be measured. First, it is necessary to select states that, according to a meticulous analysis of school statutes,[2] would serve as types in determining standards of state aid for special school activities. The following bases were used for the selection of the type states:

1. As far as practicable there should be a cross-section of the various geographical regions of the country.

2. At least five of the major divisions of the types of aid as classified in accordance with function should be represented in each state selected.[2]

3. States that stress predominantly state aid for special school projects under at least one major division should be included.

4. A fair sampling of states that show what proportion the amounts that the state grants for special school projects are of the total state appropriation for public school education should also be included.

5. In case several states meet the requirements as stated above in any region, the availability of data should be taken into consideration.

The states that were selected according to the aforesaid bases are: Vermont (New England); New York (the East); North Carolina (the South); Wisconsin, Minnesota (the Central West), and California (the West).

Testing the Worth of the Projects

In order to ascertain whether school projects that are granted state aid by reason of statutory provisions are inaugurated and maintained in local school communities, criteria were formulated for making such an appraisal. In formulating such criteria it was impossible to eliminate all the contributing variable factors that are involved when applying the criteria to the data available. Although this limitation could not be avoided entirely, there seemed to be sufficient evidence produced by applying the various criteria to the available data so that it was possible to make some significant inferences with reference to the problem.

The criteria utilized in testing the efficiency of the power of stimulation which the various state aided educational projects have educed in the states under consideration are:

1. A measure of the extent of stimulation by the percentage of local school districts or units availing themselves of the privilege of obtaining state aid for any special school project, using as 100 per cent the total number of districts that might be recipients of such aid, if willing to meet the conditions.

*This is the fourth of a series of articles by Doctor Lehman dealing with state aid.

2. A comparative study of the total amount of state aid granted for the special school projects during the first or early years that the statutory provision for such aid is in effect and the total amount granted five or ten years later; also a comparative study of the number of local school units availing themselves of such opportunity during the first years that such state grant is in effect and the number of recipients five or ten years later.

3. A comparative study of the total increase in enrollment, expressed in percentages, in school districts that have availed themselves of state aid for certain special school projects and those that have not.

4. The amount of improvement in the general level of the training of rural teachers in the states where there are statutory provisions for the state to aid financially county teacher training schools and teacher training departments in high schools.

TABLE I—THE NUMBER OF WISCONSIN HIGH SCHOOLS OFFERING SPECIAL VOCATIONAL COURSES, 1924-25[5]

Course	*Number of Schools*	*Per Cent*
Agriculture	101	23.87
Domestic science	240	59.10
Manual arts	146	34.51
Commercial subjects...	221	52.24

Furthermore, in order to determine whether or not the results obtained when applying Criterion 1 are significant, an index or norm is proposed. The index used was calculated as follows: The arithmetical average or mean of all the percentages computed in applying Criterion 1 to the data available for the various special school projects granted state aid in the six states.

Standard and Index for Criterion 1

The following arbitrary standard was also formulated relative to Criterion 1: State aid for a special school project demonstrates high effectuality as a stimulating factor when at least 60 per cent of the total number of school districts eligible for such aid will avail themselves of it.

The average of all the percentages computed when Criterion 1 was applied to the data for the six states is 49.81 per cent or virtually 50 per cent. Therefore, the index was used to determine the significance of the effectuality of state aid as a stimulating factor when Criterion 1 was employed as a test.

The application of the various criteria depends largely on the type of data that are available as they are presented in the various documents published by the respective departments of education. Naturally, one would expect to find a diversity of techniques used in the methods of presenting data relative to the state aid program of the several states. Hence, the tests for determining the efficacy of state aid as a factor in stimulating the initiation and maintenance of special school undertakings by means of the application of the proposed criteria were limited to those special school activities for which data were available and to those activities to which the criteria were applicable.

Results of Appraisal in Wisconsin

Space will not permit a detailed report of all the six states. Since data were available from Wisconsin which made it possible to utilize all four criteria in the appraisal of the effectuality of state aid we submit the results of the appraisal for this state.

Criterion 1. According to the statutes, each high school in Wisconsin is entitled to a share of the state appropriation for high schools. The grants are limited to a maximum of $500 for district high schools and to from $900 to $1,500 for union and consolidated high schools. However, since 1914 the state appropriation has never been sufficient to grant the maximum sum to the various high schools and consequently the grants have been prorated.[3]

Therefore, we must conclude that 100 per cent of the high schools of the state qualify for this state aid and it is reasonable to infer that state aid for high schools is utilized to its maximum possibilities in Wisconsin and hence should be included under the category of "general aid."

During the fiscal year 1924-25, there were 423 public high schools in Wisconsin.[4] In Table I are presented the total number of high schools maintaining the various types of special vocational courses offered and the relation between the number of high schools offering the respective courses and the total number of high schools that are in the state.

The data in Table I seem to signify that state aid for special vocational courses has been gratifyingly effective in stimulating local school districts to inaugurate such courses in the various high schools.

How Wisconsin Helps Consolidated Schools

Wisconsin sets aside $10,000 annually to help defray the expenses incurred in the erection of any consolidated school or county training school buildings. During the fiscal year 1925-26, only 10 per cent or $1,000 of this appropriation was utilized.[6] If the sentiment for consolidation were on

an upward trend, the utilization of the entire state fund allotted for the erection of consolidated buildings would be anticipated.

Statistics indicate that one or more special classes for blind children, deaf children, children with defective speech, crippled children or mentally deficient children were maintained in each of forty cities with a population of 5,000 or more and in each of ten cities having a population of less than 5,000.[7] In the fiscal statistics of Wisconsin eighty-seven cities are listed. Three of the cities having less than 5,000 population that maintain special classes for handicapped children are not included in this list of cities. If we include these three cities with the eighty-seven, making a total of ninety, and use this figure as the basis of 100 per cent, we find that 55.55 per cent of the total number of cities in Wisconsin maintained one or more classes for physically and mentally deficient children.

State Aid for Handicapped Children

The statutes of Wisconsin provide that substantial grants from state funds shall be apportioned to the various school units that maintain classes in the public schools for the various types of physically and mentally handicapped children. Since such a large percentage of the cities maintain one or more classes for the physically and mentally handicapped children, it must be the result of the factor of state aid. The high per capita cost for the maintenance of special classes makes the operation of the classes almost prohibitive even in the wealthier school communities, unless the expense is supplemented by funds supplied by the state.

TABLE II—COMPARATIVE STUDY OF THE INCREASE OF HIGH SCHOOL ENROLLMENT IN WISCONSIN, 1914-26; AND THE DECREASE OF PRORATA ALLOWANCES[11]

Year	*High School Enrollment*	*Percentage Prorata on $1 for High School Aid*
1914-15	43,836	87.10
1915-16	47,226	77.50
1916-17	50,521	72.00
1920-21	59,382	66.00[12]
1925-26	98,973	63.29[13]

The establishment and maintenance of county schools for the training of teachers in Wisconsin is limited to thirty-five.[7] In the fiscal year 1925-26, a total of thirty county training schools, or 85.71 per cent of the maximum number permitted, qualified and were granted special state aid for maintenance.[8] The fact that six-sevenths of the number of county training schools that are permitted to be maintained are functioning is indicative of the efficacy that state financial assistance has had in stimulating the establishment of these schools.

The statutes of Wisconsin specify that one high school in each county may be certified as qualified to offer a teacher training course, provided no county training school was established in the county.[9] In the school year 1925-26, forty-one counties were eligible to maintain high schools with teacher training departments. Such courses were maintained in twenty-seven high schools of the state, but only twenty-three met the standards necessary to be granted special state aid for the support of the additional course.[10] These data indicate that 56.09 per cent of the number of schools eligible to offer such courses availed themselves of the privilege of obtaining state aid. The percentage of the number of high schools eligible to receive state aid for teacher training departments is sufficiently high for us to infer that state aid seems to be a contributing factor in stimulating this special activity in the various high schools of Wisconsin.

TABLE III—NUMBER OF WISCONSIN GRADE SCHOOLS GRANTED STATE AID FROM 1901 TO 1926

Year	*Class of Graded Schools*	*Number of Schools by Classes*	*Total Number*
1901-1902[14]	First	124	
	Second	168	292
1903-1904[15]	First	144	
	Second	200	344
1912-1913[16]	First	187	
	Second	336	523
1921-1922[17]	First	226	
	Second	352	578
1925-1926[18]	First	244	
	Second	401	645
Percentage of increase, 1901-13.....			79.11
Percentage of increase, 1901-26.....			120.89

How Special Projects Have Benefited

In general, we venture the inference that when Criterion 1 is applied and the index of significance of the effectuality of state aid is employed, we find that financial assistance from state funds has proved efficient in stimulating the inauguration and maintenance of the following special school projects in Wisconsin: special vocational courses in high schools (domestic science and commercial subjects); special classes for physically and men-

TABLE IV—WISCONSIN HIGH SCHOOLS OFFERING SPECIAL VOCATIONAL COURSES AND THEIR ENROLLMENT, 1915-25[22]

Courses	*1914-15*		*1924-25*		*Percentage of Gain*	
	Number of Schools	*Number of Enrollments*	*Number of Schools*	*Number of Enrollments*	*Number of Schools*	*Number of Enrollments*
Manual arts	120	5,731	146	10,639	21.66	85.63
Home economics	171	8,235	240	12,337	40.35	49.67
Agriculture	84	3,124	101	2,971	20.48	4.89 (Dec.)
Commercial	122	8,141	221	28,533	81.14	250.48

tally handicapped children; county schools for training teachers, and teacher training departments in high schools. If we apply our test for the maximum or rather the desired efficiency of the factor of state aid as a stimulant, we find that the following special school projects for which state aid is granted in Wisconsin should be placed under the category of "general aid": high schools; special vocational courses in high schools, that is, domestic science and commercial subjects; county training schools for teachers; teacher training departments in high schools.

As was stated previously under the discussion of the application of this standard of high efficiency when considering other types of states, the nature of the project aided and the possibility of the universality of its acceptance should be considered. For example, the statutes of Wisconsin limit the number of county training schools for teachers and the number of teacher training departments in high schools that may be established. Hence, the extent to which state aid is accepted by local districts is not a true expression of the number of local districts that might be willing to accept state aid for teacher training projects provided there were no geographical or numerical limitations.

Analyzing by Means of Criterion 2

Criterion 2. It is interesting to note that from 1915 to 1925 the number of high schools in Wisconsin increased 23 per cent and the enrollment increased 95 per cent. While the enrollment of the high schools has increased steadily, the pro-rata amount of state aid granted to high schools of the state has gradually decreased because of the failure of the state to increase its appropriations for high schools. The data in Table II illustrate this situation.

Apparently state aid for high schools was not the only factor that stimulated an increased enrollment in high schools. In spite of the decrease in the amount of state aid granted to local school units the high school enrollment increased to a great extent.

Statutory provisions offering state aid for graded schools were first enacted in 1901. The increase in such standardized schools is shown in Table III.

State Graded Schools and State Aid

A statement by George Landgraf, state supervisor of graded schools, indicates the efficacy of state aid as a means of inducing local school districts to meet the requirements of the state department for state graded schools. He says:[19] "The establishment and maintenance of state graded schools are stimulated by special aid of from $200 to $400 annually, granted by the state to such of them as are approved through annual inspection by a member of the state department of public instruction and measure up to the high standard of excellence required. . . . While the state aid is not sufficient in amount to be a prime factor in the support of the schools, nevertheless the people of the state graded school districts and

TABLE V—GROWTH OF THE NUMBER OF CLASSES MAINTAINED FOR DEFICIENT CHILDREN IN WISCONSIN, 1921-25

Types of Class	*1921-22*[24]		*1925-26*[25]		*Per Cent Gain*	
	Number of Cities	*Number of Classes*	*Number of Cities*	*Number of Classes*	*Number of Cities*	*Number of Classes*
Blind	2	3	2	4	0.00	33.33
Deaf	17	40	22	46	27.68	15.00
Defective speech	6	8	19	26	216.66	225.00
Crippled	0	0	3	7		
Mentally deficient	20	41	35	70	75.00	72.43

their boards of education have a pride in their schools and desire to have them approved annually."

Consequently, we have the attendant increase in the number of state graded schools which were organized during a twenty-five-year period as is manifested in Table III.

Concerning the statutes pertaining to state aid for transportation, it has been stated that,[20] "As the public becomes more familiar with the provisions of the transportation law an increasing number of school patrons are taking advantage of it as a medium of equalizing opportunity. The number of applications for state aid for transportation increased from 725 in 1925 to 750 in 1926." During the school year 1920-21, the number of one-room schools that were closed and the children transported to other schools was 128.[21] Another indication that transportation has been encouraged is shown by the fact that 179 schools were closed in 1924-25 and the children transported to other schools. In the following year 190 schools were closed for the same reason.

This increase in the number of schools closed during the five-year period from 1921 to 1926 was 48.43 per cent. Whether or not state aid for transportation costs was the principal contributing factor for the mounting increase in the number of schools closed is problematical. However, it is reasonable to infer that the state support for this educational activity has proved to be an effectual and permanent stimulant.

The Growth of Vocational Courses

The data in Table IV portray concisely the growth of the number of schools offering special courses as well as the number enrolled in these courses. All the special vocational courses indicate a marked gain over a period of ten years, with the exception of the courses in agriculture, which experienced a loss during the decade. The marked increase in the number of schools maintaining special vocational courses has some bearing on the influence state aid has on the inauguration of such courses. Although vocational education was stressed emphatically during this period, it is evident that the state aid factor was the necessary incentive needed to satisfy the local school boards that such courses should be included in the high school curriculum.

Federal Aid and Vocational Courses

The number of vocational departments maintained under the provisions of the Smith-Hughes Act increased from fifty during the school year 1917-18 to 169 for the school year 1927-28.[21] This is an increase of 238 per cent during a span of ten years. Undoubtedly Federal aid was the main source of stimulation for this school activity, because the state furnishes only a small share of the financial aid that is used for vocational departments.[23]

The following data indicate the building activity in consolidated districts located in the state of Wisconsin, over a period of ten years:[21]

Year	*Number of Buildings Erected with State Aid*
1915-16	8
1916-21	5
1925-26	2

This shows a decrease of 75 per cent during a period of ten years. Evidently state assistance for the erection of consolidated school buildings has not proved efficacious as a stimulant for consolidation in Wisconsin.

TABLE VI—COMPARISON OF ENROLLMENT IN HIGH SCHOOLS WITH AND WITHOUT SPECIAL VOCATIONAL COURSES, 1920-21 TO 1925-26

	1920-21[28]		*1925-26*[29]	
	Number of Schools	*Number Enrolled*	*Number of Schools*	*Number Enrolled*
Totals	402	63,887	430	98,973
Less the high schools for which data were not comparable	16	1,024	44	3,427
Totals of schools maintaining special courses and their enrollment	292	58,148	292	89,665
Totals of schools not maintaining special courses and their enrollment	94	4,715	94	5,881

Percentages of increase in enrollment, based upon the enrollment for 1920-21

a. Schools with special courses 54.20

b. Schools with no special courses 24.72

The growth of the number of special classes for the physically and mentally handicapped children for the period 1921-25 is indicated in Table V. It is possible that other factors than state aid affected the marked increase in the percentage of the number of classes maintained. However, it is likely that state aid contributed heavily to this growth, because the per capita aid from state funds is substantial and the per capita cost for maintaining such special classes is excessively high.

What Criterion 2 Revealed

The data pertaining to the application of Criterion 2 point to the following conclusions with respect to the efficacy of state aid as a factor in causing an increase in the inauguration and maintenance of special school projects over a span of years in Wisconsin: State aid has served as at least one predominant factor in the increase of state graded schools; in the increase of schools maintaining special vocational courses; in the increase of vocational departments under the provisions of the Smith-Hughes Act, and in the increase of special classes for physically and mentally handicapped children. Apparently state aid is not the principal factor that causes the increase in the number of high schools. State aid has not been effectual in stimulating the erection of consolidated buildings.

Criterion 3. The increase in the total enrollment of high schools in Wisconsin for the decade 1915 to 1925 was 41,663 pupils, or 95 per cent, using the enrollment of 1915 as the basis for computing the percentage.[26] During the same period, the total enrollment in the special vocational courses in high schools increased from 25,231 to 56,635, or an increase of 124.46 per cent for the period.[27]

However, a more valid criterion would be to determine the relationship that exists between the increase of enrollment in schools that had maintained vocational courses during a given period of time, and those that did not avail themselves of state aid to maintain such courses. In Table VI data are given to show such increases. Although it is evident that other factors contributed to the increased enrollment in the high schools during this period, it is significant that the schools that maintained special vocational courses showed an increase in enrollment that was almost double the amount of the growth of enrollment in the high schools that did not maintain special vocational courses. It is impossible to formulate any conclusions as to the quantitative effect that state aid has on the enrollments of high schools in Wisconsin, but it is significant that the high schools that made the greater strides in the increase of enrollment during a five-year period are the ones that have inaugurated special courses for vocational education.

Training Rural Teachers

Criterion 4. The increase in the percentage of rural teachers who have pursued or completed teacher training courses during the period 1913 to 1926, inclusive, is clearly indicated in Table VII. The decrease of the percentage of those with no professional training who are teaching in the elementary schools is especially significant. During the school year 1913-14, 48.28 per cent or nearly one-half of the rural teachers in active serv-

TABLE VII—COMPARATIVE STUDY OF THE TRAINING OF RURAL TEACHERS IN ELEMENTARY SCHOOLS, 1913-14 AND 1925-26

Amount of Training	*1913-14*[30]		*1925-26*[31]	
	Number of Teachers	*Per Cent*	*Number of Teachers*	*Per Cent*
Completed college course	22	.33	27	.41
Attended college	80	1.21	101	1.55
Completed full normal course	123	1.85	262	4.02
Completed elementary or rural normal course	294	4.43	1,144	17.55
Attended normal school	1,093	16.47	714	10.97
Completed county training school course	1,385	20.87	2,717	41.69
Attended county training school	286	4.31	58	.89
Completed teacher training course in high school	149	2.25	927	14.22
Completed regular high school course only	2,680	40.39	462	7.09
Attended high school	417	6.29	77	1.18
Finished eighth grade only	106	1.60	28	.43
Total	6,635	100.00	6,517	100.00

TABLE VIII—CASES WHERE STATE AID FOR SPECIAL PROJECTS IN SIX STATES HAS PROVED A STIMULANT, WHEN APPLYING CRITERIA 1 AND 2[32]

State	Criterion 1*				Criterion 2*			
	a	*b*	*c*	*d*	*a*	*b*	*c*	*d*
California	5	3	1	1	3	3	0	0
Minnesota	8	5	0	3	8	5	3	0
New York	9	5	1	3	2	1	1	0
North Carolina	7	7	0	0	5	4	1	0
Vermont	6	4	1	1	5	2	3	0
Wisconsin	6	5	1	0	7	4	3	0
Total	41	29	4	8	30	19	11	0

*a indicates the total number of projects to which criterion was applied; b, number of projects tested which indicate that state aid was an effectual stimulant; c, number of projects tested which indicate that state aid was not an effectual stimulant, and d, number of projects for which data were not available or not applicable to criteria.

ice in Wisconsin did not have any professional teacher training, and in the school year 1925-26, this percentage had decreased to 8.70, or a gain of almost 600 per cent in favor of the teachers who have received training.

Although other factors have contributed to stimulate a higher level of training for rural teachers in Wisconsin, such as higher requirements demanded by the state department of education for certification, during the aforesaid period, obviously the establishment and maintenance of county teacher training schools and of teacher training departments in high schools have influenced greatly the rapid raise in the general level of professional training among the rural elementary teachers. In the school year 1913-14, 27.43 per cent of all the rural teachers in Wisconsin, or 61.19 per cent of those rural teachers who had attended or completed courses in teacher training institutions or colleges, received their training in a state aided county training school or a teacher training department in a high school. During the school year 1925-26, a total of 56.80 per cent of all the rural elementary teachers in Wisconsin or 62.21 per cent of those who had pursued or completed teacher training courses received their training in state aided county training schools or in teacher training departments in high schools. Obviously these two state aided types of institutions helped materially to decrease the number of rural teachers who were trained meagerly or not at all.

Cases in Which State Aid Was a Stimulant

Space will not permit giving a detailed report of the criteria applied to the state aided special school undertakings in the other five type states. However, we shall present a summary of the findings in all the six type states. The results of applying Criteria 1 and 2 as tests to determine the efficacy of state aid for special school projects as a stimulating agent in the six states are presented in Table VIII. These data, when converted into percentages, reveal the fact that 70.92 per cent of the total number of special school projects to which Criterion 1 was applied were of such a nature that state aid proved effectual as a stimulating agent. If we take into consideration only the number of projects for which data were available, the test proved that state aid was efficacious as an encouraging factor in 87.87 per cent of the cases.

What Criteria 1, 2 and 3 Showed

When Criterion 2 is applied, the data signify that in the case of 63.33 per cent of the total number of special school projects for which data were available and applicable state aid proved to be an efficient factor in stimulating the initiation and maintenance of these projects in local school communities of the states chosen as subjects for this study.

Adequate data were available in only three of the six states to make the test with Criterion 3. The results of the application of this test in Vermont showed that in nonstate aided districts the enrollment in high schools increased more during a given period than in high schools that received special aid from state funds for special vocational departments. In Minnesota the results of the same test were in favor of the high schools that maintained state aided vocational departments. The data for Wisconsin are given above. No definite conclusions can be formulated in the case of Criterion 3 because of insufficient application of the test.

Although Criterion 4 was applicable to only three of the six states, in each case the evidence designated conclusively that state aid for the establishment and maintenance of teacher train-

ing departments in high schools and county normal schools was effectual in raising the general level of training among the teachers of rural elementary schools.

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Do High School Pupils Actually Like to Go to School?

That high school pupils do like to attend school is the opinion of Edward B. Couch, principal, Polytechnic Vacation High School, Los Angeles, who takes issue with the following statement made by H. F. Felix, principal of schools, Franklinton, La., in an earlier issue of The NATION'S SCHOOLS: "I have not yet seen a high school student group that is thoroughly happy and satisfied with being in school."

Mr. Couch gives as authority for his opinion the results of a questionnaire which he sent to seventy schools in southern California.

To the question, "Do you like to attend high school during the regular term?" 1,919 pupils answered, "Yes," while only 105 answered, "No."

"It seems to me," Mr. Couch writes, "that this is an indication that the administrators of our public high schools are adequately meeting the adolescent problem. Our varied courses of study that give a wide selection in the way of elective subjects are making a pleasant experience of school life."

To discover definitely how the pupils regarded school, this question was asked, "When you welcome an occasional or incidental holiday, is it because you dislike attending school or because you welcome a change?" This question was inspired by Mr. Felix's statement that "Doubtless, the funeral of almost any high school principal would be a happy affair since it would mean a holiday."

The replies indicated that 1,929 pupils welcomed a change rather than disliked school, while 27 pupils did not welcome a change.

On another question a proportion of practically two to one answered that they tired of the long vacation and welcomed the reopening of school.

Children Like Variety

"From the statements it would seem that the thing desired is merely a change from routine, a desire that is perfectly natural to the adolescent child," Mr. Couch continues. "It is not entirely foreign to others beyond the adolescent age.

"The problem of the administrator is to make his school as 'live' a place as possible. Life involves change. Life outside of school is natural. It is full of surprises. The school room, too often, with its programmed order of procedure becomes uninteresting because the expected always happens.

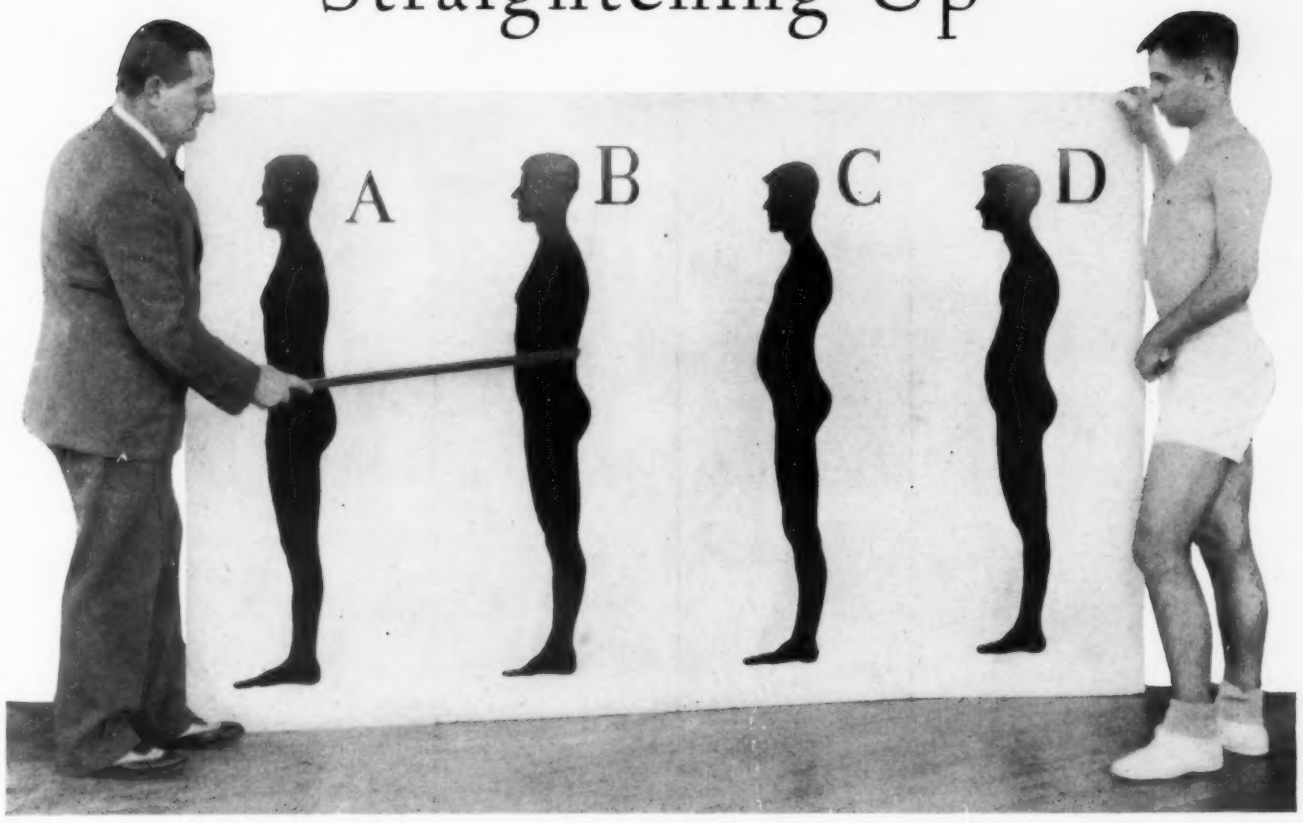
"Administrators need to leave their offices and visit the classes. They need to check up to see if the teacher is teaching the same subject in the same way from day to day and from year to year. They must work shoulder to shoulder with the teacher on the problem of making school an intriguing experience for the child.

"Pupils receiving the questionnaire were asked to suggest things that would make school more enjoyable to them. Among the suggestions were: 'More variety in methods of teaching'; 'a more friendly spirit toward the pupils on the part of administrators and teachers'; 'younger teachers who are not set in their ways'; 'better looking teachers'; 'less home work so that pupils may take part in home life'; 'more frequent short vacations instead of the long vacation'; 'supervised school dances'; 'no cranky teachers'; 'more recreational activities'; 'personal consideration on the part of the teacher'; 'up-to-date assemblies'; 'more electives'; 'smaller classes'; 'no home work on week ends'; 'interesting teachers'.

"These suggestions were made by pupils who like school work and should carry some weight if we care to criticize the school situation as it exists to-day. This situation, however, is far from hopeless.

"In the thirty-one years of my experience as principal, superintendent and teacher, I have not yet seen a student group that was not on the whole happy in its work."

Straightening Up



Since physical education is compulsory in the majority of public schools, this article, which suggests practicable methods of improving body mechanics, should be read with interest by physical educators everywhere

By GEN. LEIGH R. GIGNILLIAT, Superintendent, Culver Military Academy, Culver, Ind.

IN GENERAL the trouble with calisthenics and setting up drills is that they are long on motion and short on motivation.

The régime of body mechanics I am about to describe provide the urge as well as the exercise.

It has produced in Culver Military Academy results so superior to the old system that I have acceded to the request of the editor of The NATION'S SCHOOLS to write about it, even though I may seem to be trenching on a field which is properly that of the specialist in physical education. To the specialist I can only say in extenuation that sometimes someone comes along and tells the youngsters of my school something I have told them many times, and because perhaps he presents it from some slightly different angle, they accept it as gospel and as though they had never heard of it before. With some such hope I have the temerity to do what I am doing now.

My own first conscious effort toward acquiring what in military parlance is called a "set up" was as a plebe, or first-year cadet in a military school many years ago. In addition to the daily setting up exercises we were required to "fin out" as we walked about the campus. This consisted in turning the palms of the hands to the front and plastering the little fingers along the seams of our trousers, so in truth we did appear to have fins at our sides. There was also the exaggerated bracing back of the shoulders until the muscles ached. Had I thought of it then I would have known that before I came to school I had seen a far more effective means of securing an erect and graceful carriage, and one perhaps that would not have made us feel any more conspicuous than "fins out." We might have walked about with baskets on our heads, as I had seen the Negro hawkers do in my old home in Savannah, Ga., crying out their wares of shrimp and crabs in their soft musical voices. As I remember them,

I am sure they would come nearer to rating "A" in the graceful, beautiful alignment of their bodies than any group of people I have ever seen.

As time has passed, setting up exercises have been improved and elaborated and have found their way into many more schools than those that are military. "Daily dozens" come over the radio for home use and calisthenics classes are available in the clubs for the business man who wants to keep fit.

Yet as a people, men, women and children, our postures, our body mechanics, to use the modern term, both standing and sitting, are simply terrible.

Our tailors and our dressmakers may conceal the unflattering facts, even our bathing suits may divert the eye from the truth, but the clear cut outlines of a silhouetteograph of our unadorned bodies, like those accompanying this article, would be a rude shock to most of us. At least they would scarcely move us to order a dozen for distribution to our friends and relatives.

In the first place, few of us are posture conscious. We do not know exactly what our correct posture is. We have never clearly visualized by comparison with a standard just where we are out of alignment, and we do not realize just what damage this lack of alignment is doing to the functioning of our vital organs. Without this realization we soon lose our enthusiasm for setting up drills and daily dozens. If you ask the average person to stand in what he considers an erect position, he will as a rule rear back and think he looks like a Grenadier Guard, when in truth he has not improved his posture at all and probably is more sway backed than he was before.

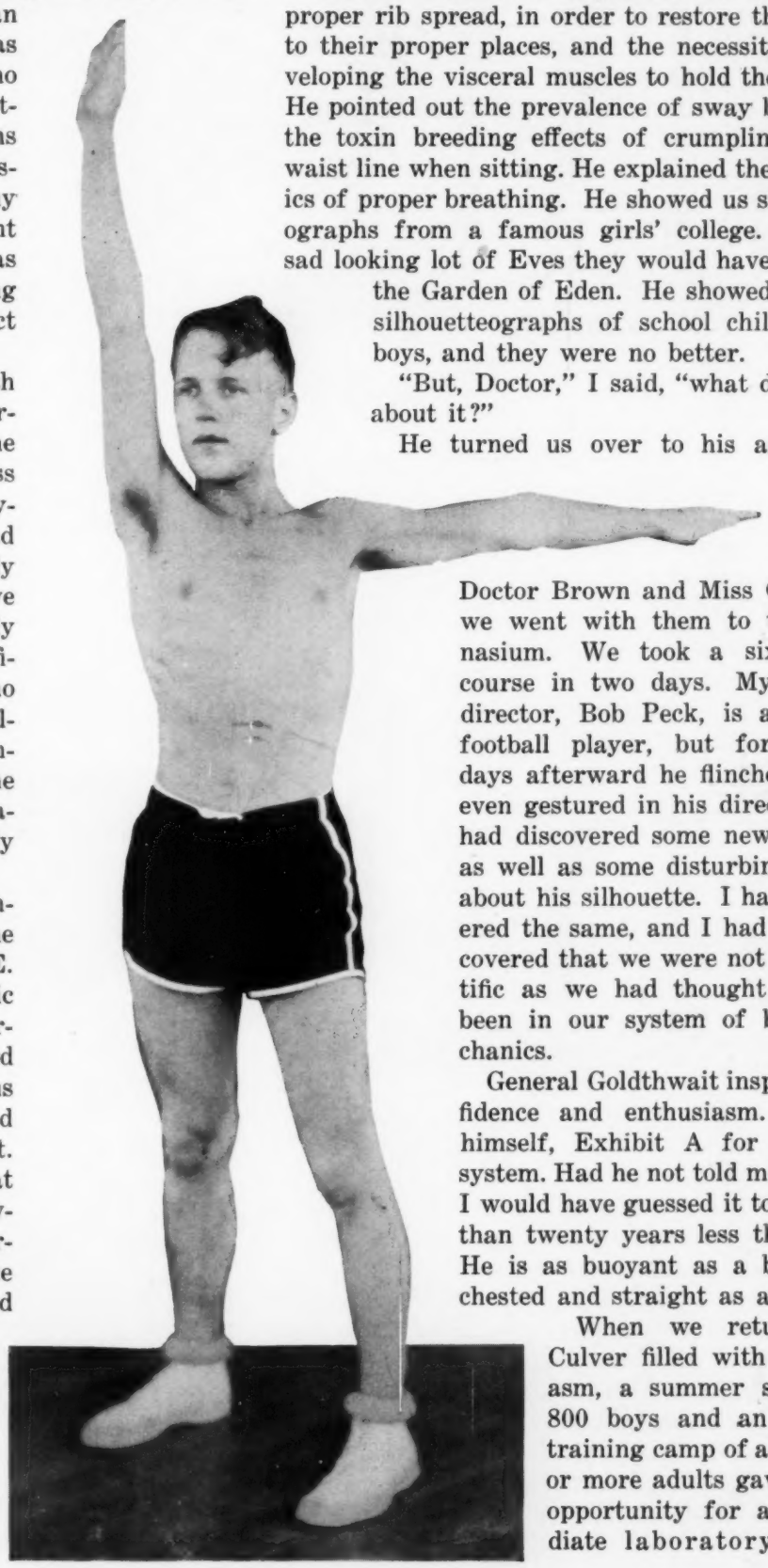
Even if he does realize that his back should be flat, that the angle of his ribs is hopelessly acute (he should normally have a spread of four fingers width at the apex) that his "gut should be sucked up" and that he has never used his abdomen properly for breathing since he was a baby, he may still become discouraged because his list of exercises does not happen to include the ones required to correct speedily his particular defect. He knows that the efficiency of a motor out of alignment is seriously impaired and if he has one he promptly sees that it has expert attention. But he does not as a rule realize that the same is just as true of the body, and that body mechanics is even more essential to health than mere exercise, that proper bodily alignment greatly lessens

the fatigue of office work for the sedentary and of physical strain for the laborer, the athlete and the soldier.

We discovered during the war that the sway back soon wilted under the weight of the pack and the stress of campaigning, and a great corporation like the Metropolitan Life Insurance Company has found that office workers who crumple at the waist in sitting quickly develop toxins that produce fatigue and lessen efficiency. The company has established a department of body mechanics and has spent large sums in designing a chair that tends to correct this defect.

As a military school, with the constant emphasis on correct carriage, we have done fairly well, but I must confess that after thirty years of trying many expedients and many exercises it is only within the year that we have found a system of body mechanics that is scientifically satisfactory. We claim no originality for the system, although perhaps we are entitled to some credit for the thoroughness of its application. And we are immensely satisfied with its results.

About a year ago my athletic director and I spent some days with Gen. Joel E. Goldthwait, noted orthopedic surgeon and professor of orthopedics in the Harvard Medical School. He gave us first what might be termed an inside view of the subject. He exhibited to us a great stack of x-ray pictures showing hearts that should properly be at the height of the ninth vertebra and had slumped down to the twelfth, other vital organs equally out of place, as well as vertebrae out of line. Then he showed us silhouetteographs made inexpensively on paper with a camera of his own devising, and explained how the faulty postures shown in these silhouetteographs were responsible for the sad disarrangement shown in the interior views, resulting in impairment of efficiency and sometimes serious ill health.



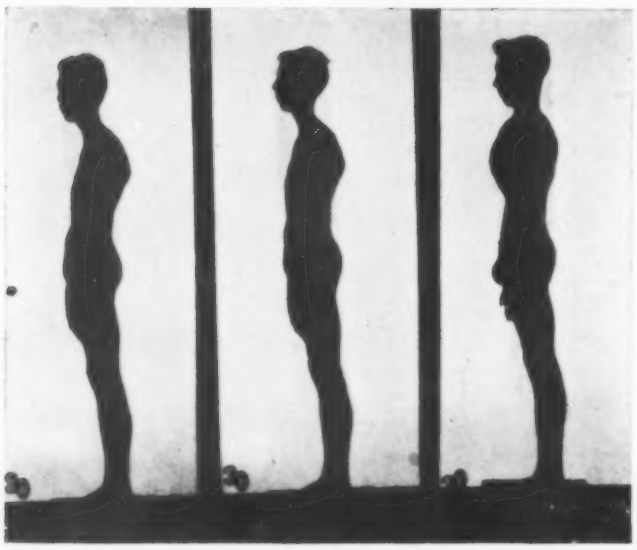
General Goldthwait explained the need for a proper rib spread, in order to restore the organs to their proper places, and the necessity for developing the visceral muscles to hold them there. He pointed out the prevalence of sway backs and the toxin breeding effects of crumpling at the waist line when sitting. He explained the mechanics of proper breathing. He showed us silhouetteographs from a famous girls' college. What a sad looking lot of Eves they would have made in the Garden of Eden. He showed us, also, silhouetteographs of school children and boys, and they were no better.

"But, Doctor," I said, "what do you do about it?"

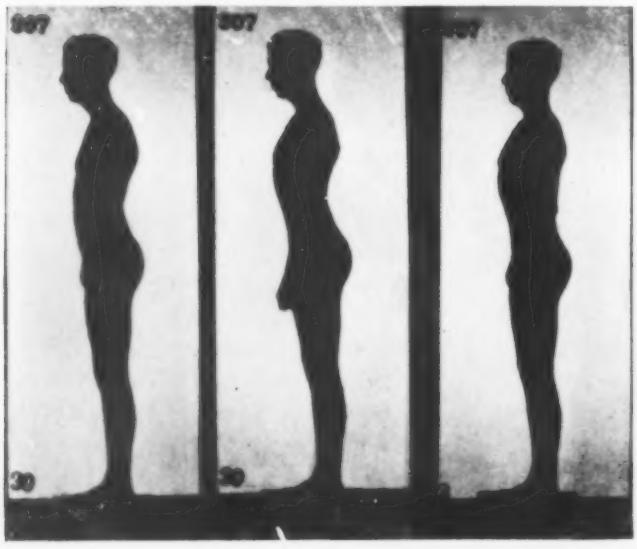
He turned us over to his assistants, Doctor Brown and Miss Cole, and we went with them to the gymnasium. We took a six weeks' course in two days. My athletic director, Bob Peck, is a famous football player, but for several days afterward he flinched if you even gestured in his direction. He had discovered some new muscles as well as some disturbing things about his silhouette. I had discovered the same, and I had also discovered that we were not as scientific as we had thought we had been in our system of body mechanics.

General Goldthwait inspires confidence and enthusiasm. He is, himself, Exhibit A for his own system. Had he not told me his age, I would have guessed it to be more than twenty years less than it is. He is as buoyant as a boy, deep chested and straight as an arrow.

When we returned to Culver filled with enthusiasm, a summer school of 800 boys and an officers' training camp of a hundred or more adults gave us the opportunity for an immediate laboratory experi-



Silhouetteographs taken three months apart showing improvement in posture resulting from corrective exercises. The upper picture illustrates improvement in a pupil with very poor posture who worked up from D to B minus in three months. In the lower picture we see the development in a pupil with flat chest, faulty position of neck and sway back.



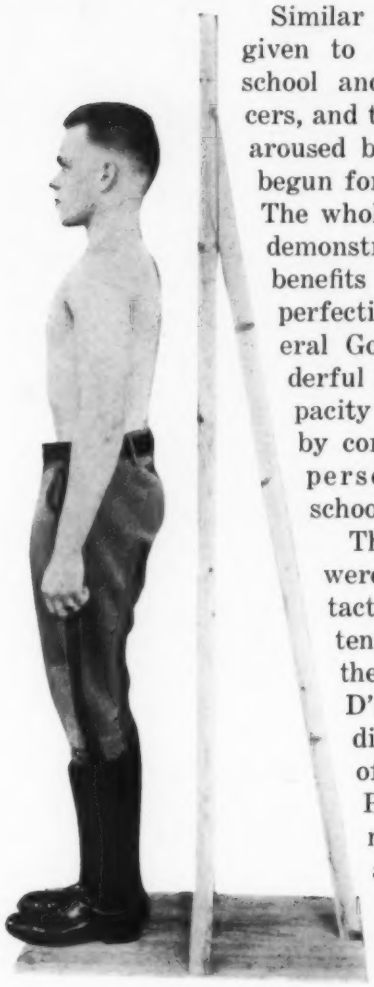
ment. From ten years old to sixty we had the material at hand. The time was brief, but the results were amazing.

By the end of the summer we had worked out the adaptation of the system to our needs, set up the necessary exercises and perfected the technique of the staff. Nearly a thousand silhouettes had been taken, the whole athletic staff had been practiced in interpreting the pictures and rating them according to the scale of A, B, C, D, and individual ratings had been compared and checked by General Goldthwait. With this experience the ratings by the individual members of the staff were brought almost to a hundred per cent agreement.

With the opening of the school in September, it was decided to silhouetteograph not only the new cadets but every cadet in the school, every mother's son of them, from private to captain. There was a good percentage of A's and B's among the older cadets, few among the newcomers but, to our chagrin, there were found even in the graduating class some with ratings of C and D.

The silhouettes are an essential part of the system. Previously we had taken much more expensive photographs of all newcomers, but features, and lights and shadows of a photograph distract the eye and they are not so uncompromising in their revelation of defects of bodily alignment as the cold outlines of a silhouette. Nor had we previously graded these pictures. No boy wants to be rated C or D, but when there is his personal silhouetteograph that can be compared with a standard silhouetteograph, there is no argument. There is only a great urge to get busy, remedy the defect and become an A or a B. There was added to this the incentive of an exemption from routine calisthenics for all A's and B's, as well as some athletic restrictions on the D's.

At Culver there is what is known as a tactical officer in charge of each company of approximately fifty boys. All of these tactical officers, as well as the athletic staff, were carefully trained in interpreting and grading the silhouettes and instructed in giving the exercises to correct defects.



Similar instruction was given to the athletes in the school and to the cadet officers, and their enthusiasm was aroused before the work was begun for the school at large. The whole corps was given a demonstration lecture on the benefits of the system. In perfecting the system, General Goldthwait gave wonderful assistance in the capacity of consultant, both by correspondence and on personal visits to the school.

The C's in each group were turned over to the tactical officers for attention. The C's minus, the D's minus and the D's were given remedial work by members of the athletic staff. Prior to the Christmas vacation the C's and D's were again silhouetteographed. The number of D's was found to be practically nil, and the C's mostly changed to B's and A's. Many B's voluntarily took the exercises that they might acquire the A rating. The silhouettes accompanying this article are illustrative of some of the remarkable changes that took place in that brief three months.

The exercises we are using for corrective purposes fall roughly into three groups: those to obtain the proper bodily alignment, those to promote correct breathing and those to develop flexibility. They are executed from prone, sitting or standing positions.

Features of the Plan Explained

It is scarcely within the province of this article to describe these exercises in detail. I should then indeed be trenching on the province of the physical director. It has been my purpose rather to stress the motivating features of the plan and its general administration, rather than its mechanics.

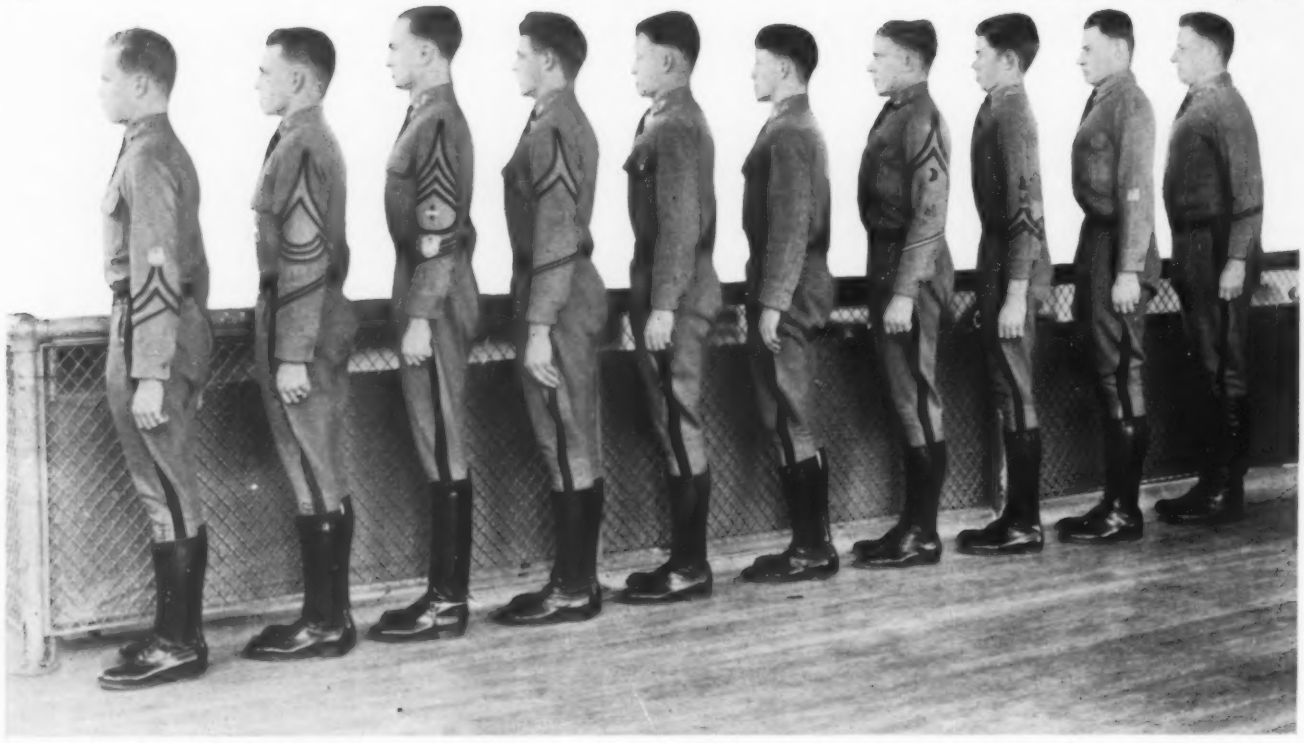
I shall attempt, however, to give merely as illustrations two of the exercises that we have found particularly effective in remedial work for the C's and D's.

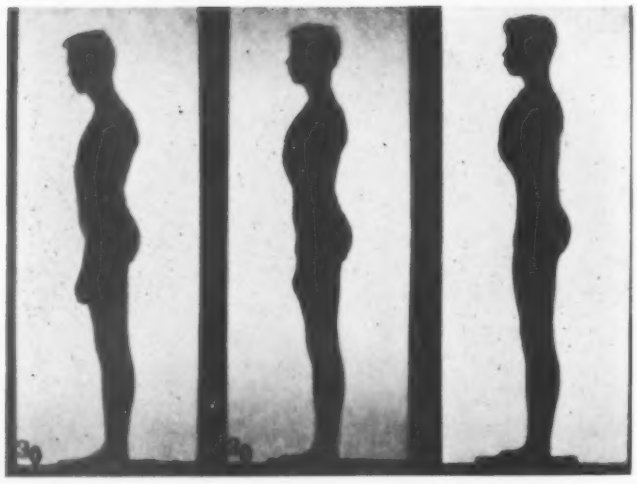
For correcting a sway back, lie flat on the back on floor or table. (In this position if there is pronounced sway back, the hand or even the doubled fist of the instructor can be passed under the small of the back.) Bring up the knees, keeping the soles of the feet flat on the floor, thrust the hips toward the heels with a sort of upward rotary motion without lifting buttocks from the floor. If correctly executed, this brings the back flat against the floor and the hand of the instructor can not be passed under it. In explaining this exercise in the Goldthwait clinic they tell you that the motion is the same that you would make if you had a tail and were trying to curl it between your legs.

To increase the rib spread, take position prone, sitting or standing, with the chest up and the chin in. Grasp the ribs with the tips of the fingers, pull them strongly outward and at the same time inhale. Exhale without relaxing the hold on the ribs. Relax the hold. Repeat ten times.

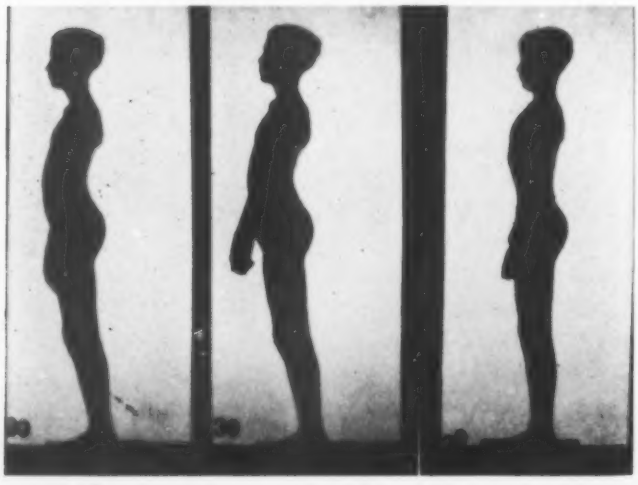
The first essential, of course, is for the boy or girl to become posture conscious, to know when he has the body in proper alignment. This may be done as follows: Stand with the heels about four inches from the wall, toes slightly turned in; flatten the abdomen, raise the chest, draw in the chin, lean back against the wall with the head, the shoulders and the buttocks against the wall; flatten back, if necessary, by the motion described in the first exercise. Now, with one hand and without changing the alignment of the body, shove yourself gently away from the wall until the body is balanced with the weight equally distributed on the heels and the balls of the feet. Do this repeatedly until you have the feel of it and can retain the position without effort.

In conclusion, may I say to any who may be inclined to feel that I am a bit overenthusiastic, that the members of my athletic staff and the faculty at large share





Improvements in posture after three months of corrective exercises. The upper picture shows a pupil with good muscular development but poor body mechanics who worked up from rating C to A. The lower picture illustrates the marked improvement in a boy with pronounced sway back.



my enthusiasm. Some of them who were becoming girthy have had to enlist the services of their tailors in reducing trousers' waistbands by several inches. I, myself, have been sitting since dinner writing this article. It is now after one a.m. I am but little fatigued because in sitting I have observed the principles of body mechanics as outlined here.

After all, I have but passed on largely what we have learned from others. If in any way we have given this information or integrated it in a manner that will be helpful to other schools, we in turn shall be glad to pass it on to those who may care to come and see the plan in action.

Omaha Is Tenth Municipal University Established

With the recent establishment of the Omaha Municipal University, Omaha, Neb., the tenth addition to the municipal colleges and universities in this country was made. The other nine, in order of their establishment, are: College of Charleston, 1837; University of Louisville, 1837; College of the City of New York, 1847; Hunter College of the City of New York, 1870; University of the City of Cincinnati, 1871; University of Toledo, 1884; University of Akron, 1913; University of the City of Detroit, 1923; Municipal University of Wichita, 1926.

The president of the Omaha Municipal University is Dr. W. E. Sealock, dean of the teachers' college, University of Nebraska.

Defining the Rights and Duties of Parent-Teacher Associations

The tendency of boards of education to shift to the shoulders of generous, progressive parents the burdens they themselves should assume is here deplored and remedial measures are suggested

By ARTHUR B. MOEHLMAN, Professor of School Administration and Supervision, School of Education, University of Michigan

THE parent-teacher association is a comparatively new force in public education. Organized in 1897 as an agency for the education of mothers, the National Congress of Parents and Teachers has gradually widened its scope and membership, until it includes to-day practically one and a half million parents in its active membership. Any organization with so large a membership is bound to make its influence felt in both the state and the nation.

An association with an emotional stimulus, such as the parent-teacher organization contains, represents a potency that rises far beyond that of a group associated for business or ordinary purposes. Since this is a force to be considered in our local, state and national life it may be desirable at this time to examine its status, its relationships and some aspects of its programs carefully in order that its proper function may be clearly recognized.

Three Distinct Groups

During the past decade I have had ample opportunity to inspect the work of the parent-teacher associations in numerous school districts east of the Mississippi and north of the Mason and Dixon line. These inspections include approximately forty-five different school districts, with chapters ranging in number from none to 120 in a single district. These associations may be divided into three divisions representing different tendencies and different concepts of leadership and function.

In the first and largest group I would place all of the associations that are bending their efforts toward establishing intelligent cooperative relationships between the home and the school through parental education and that are also attempting to interpret the schools to the community. The outstanding characteristic of this group is superior professional and lay leadership, skillfully organized in terms of worthy objectives, with the practical elimination of selfish personal ambition or flamboyant demagoguery. Fortunately these associations are in the majority.

The second group includes a series of moribund associations developed primarily as "window dressing" and impotent because of poor leadership. Certain school executives are timid about the parent-teacher organization. They feel it to be a distinct danger to established complacency and traditional routine. Yet it is the fashion to have parent-teacher associations. So they are organized and purposely kept harmless and innocuous. Their potential powers are not used. Within this division is another group which, because of community conflict or unwise leadership, has lost its prestige and has degenerated into merely a name. Sometimes these groups live along for many years with little or no constructive achievement. A few elect officers regularly, but have little else in their favor. Some die out after a hypothetical "life" of five years. Among these may be grouped some of the associations in secondary schools. Due to the lack of homogeneity in a high school district, the increasing independence of the adolescent and the traditional attitude on the part of the instructional staff, these groups represent real problems in organization and effective program development.

"Trouble Spots"

The third and smallest classification represents those aggressive groups that for one reason or another mistake their real function, take unto themselves a fair share of popular sovereignty and become the dominating force in the community. These groups usually represent the "trouble spots" in the school districts. We find them sitting with the board of education and offering advice with respect to policy and procedure.[1] They attempt to interfere with the appointment of teachers, with

[1]Butterworth, Julian E., The Parent-Teacher Association, pp. 50-57.

the discharge of incompetent teachers and with method and practice. In fact, they act exactly as if the group had a sovereign mandate to operate the schools. These associations are sometimes used by individuals in the teaching profession to obtain their own personal advancement. Lay leaders within the association find them excellent steps for climbing to elective office and political preferment. Again, faddists may obtain control and proceed to push their program upon the community regardless of need. Sometimes such an association repre-

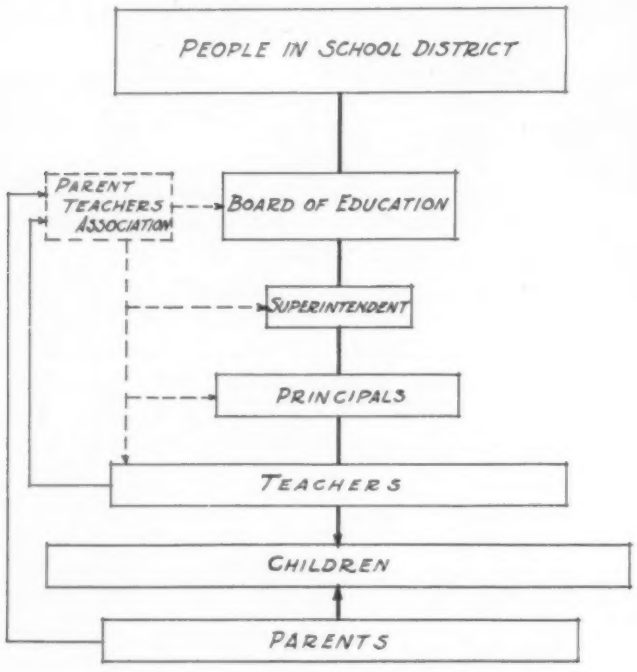


Chart 1.

sents the intense and bitter struggle of two women for social supremacy in a small and narrow-minded community.

These programs have also taken the form of ultraconservatism in the maintenance of *status quo*, based upon some peculiar notion that an industrial democracy is a static social organization. The outstanding characteristics of this small group are social conflict, poor leadership, unbalanced programs, misconception of function and trouble making in general. They are not confined to the very small communities by any means, but also exist in certain parts of the larger districts. Fortunately for the parent-teacher movement, the third group represents a small minority.

Dangerous Assumptions

The assumed relation of this classification to the legal organization may be most easily described diagrammatically. This has been done in Chart 1. The extra-legal organization of parents and teachers operates, through a mistaken assumption of function, on the same level as the board of education. In matters of policy it makes itself felt in no uncertain terms. It dictates actions to the board of education. It interferes in the hiring and discharging of personnel; it sometimes determines curricular content and has been known to advise superintendents and principals respecting method; to all intents and purposes it acts as a second board of education in certain communities, forcing the board by weight of social and political influence to accede to its demands.[1]

There is no implication that all of these demands are either unworthy or unintelligent. On the contrary, in many instances, they represent what the board of education should actually have done long before. The question to be considered here is the validity of the method employed over a long period of time and the dangerous assumptions of a minority organization, beyond the limits of the legal plan developed by the will of the entire people. Although a parent-teacher association may feel that it is more representative of the citizenry, particularly in a small town, than is the board of education, it has no legal basis for this assumption.

Before describing the real function of the parent-teacher association and its proper place in the educational organization, we must consider briefly the character of public education as a legal organization in our local and national life.

The Basis of Public Education

Public education is a state function in this country. The people of a state, as a group, *will* to have public education. This will is based fundamentally upon tradition and custom. Through the instrument of state government, the constitution, which determines the framework, character and limitations of the delegated powers, the people have expressed their will in the provisions pertaining to education.

The legislature has translated the constitutional mandate into a body of laws which, taken collectively, are generally known as the public school code. The school code provides for a mandatory minimum program of education to meet the needs of the state for the perpetuation of intelligent representative government, permissive legislation to permit each district to develop education beyond the minimum in accordance with its ascertained needs, and generous interpretation by boards of education of what is necessary "for the proper establishment, maintenance, management and carrying on of the public schools of the district under consideration."

In the mandatory laws, each state provides for the means by which public education shall be administered locally. Local school districts are created through these laws, each of which is empowered to carry on public education under the statutes

[1]Parents and Teachers, edited by Martha Sprague Mason, pp. 215-219.

and under the appraisal of the state department of public instruction. The legal organization of public education thus provides for the centralization of general policy making and for the decentralization of execution. It also provides for liberal powers of interpretation by local school districts to meet special local conditions. One of the outstanding characteristics of our public school organization is the flexibility of executive organization.

The citizens of each legal school district meet and elect a group of representatives through which the general educational plan is to be made effective. Each of these school boards is the supreme educational authority within the district, deriving its powers from the general expression of the will of all of the people of the state, expressed in constitution and through statute, and acting as the local legislative body in carrying out this collective will within the district limits.

How the Board Functions

The local board of education, as a board and not individually, has full legislative and appraisal power under the law. Since the actual process of instruction is a highly complicated and technical activity, the state has provided for its legal delegation to individuals specifically trained and legally

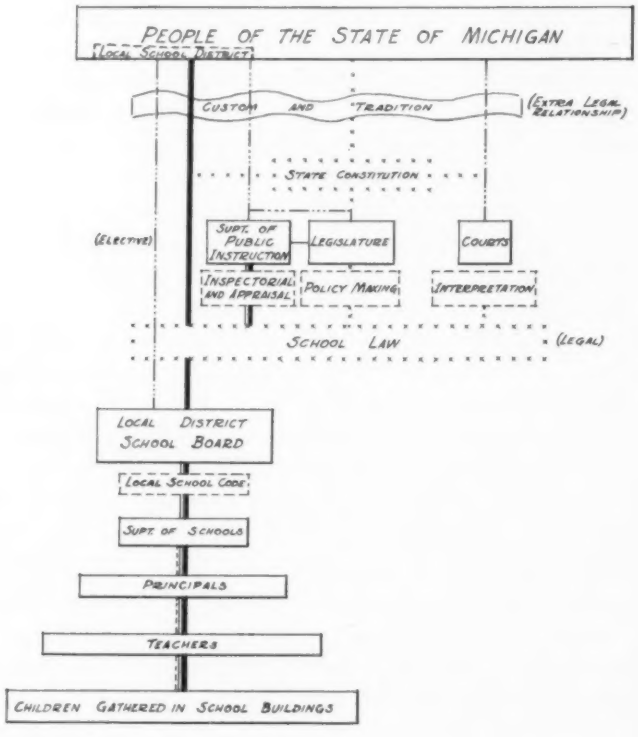


Chart 2.

certificated. Each board of education therefore delegates, in accordance with statute requirements, the actual executive function of carrying out the broad legal policies to professional executive agents, including a superintendent, staff specialists, principals and teachers trained for this work.

Each of these professional executives acts under the laws of the state, the policies and the approved means of procedure of the board of education in carrying out the general will of the people with re-

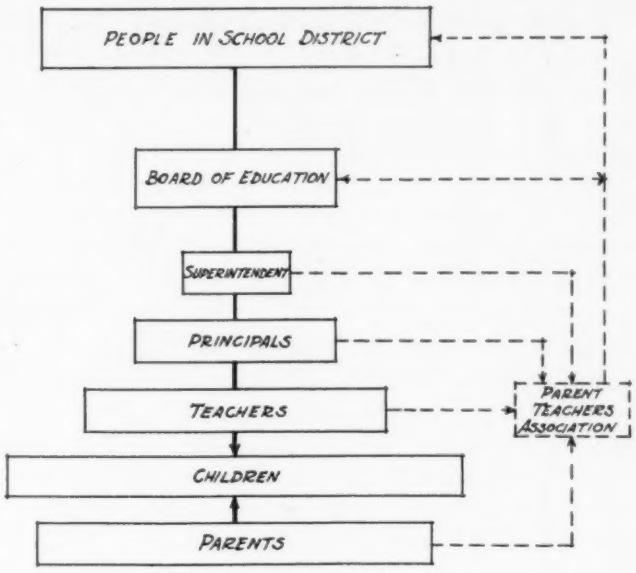


Chart 3.

spect to public education. None has any authority beyond that legally prescribed by state and by the board of education.

The legal basis of public education is shown graphically in Chart 2. In this chart Michigan is used as an example.

Power Is Limited

Careful consideration of this organization indicates that it operates in general as a legal expression of the collective will of the people of the state as a whole and specifically within the particular local organization or district. An individual board member has no authority to promulgate, to change or to interfere with the operation of the educational plan. The superintendent, the principal and the teacher, as private individuals, have no authority to interfere or to change the legal expression of popular will. The board of education operates only as a legally representative group or board. The professional executives are merely the legalized agents to whom the executive function has been delegated.

If this idea of responsibility and power is carried one step further, it is quite obvious that no extra-legal organization has any authority to determine, to interfere with or to change the working of the educational plan. As individuals they possess the legal right to appraise the workings of the plan and to vote for changes or for enlargements and contractions. Their opinion must, however, be expressed legally and through regular channels.

More specifically, the power of these extra-legal groups, whether they be called good government leagues, chambers of commerce or parent-teacher associations, is limited to the creation and development of public opinion through which other individuals may be influenced, but they have no direct authority to interfere with the working of the legal plan or to determine what the board of education or professional executives shall do.

An Extra-Legal Agency

The functional definition of a parent-teacher association might be expressed as follows: The parent-teacher association is an extra-legal agency composed of parents and of the teachers of children. Its primary purpose is that of a clearing house for the presentation and discussion of educational problems in order that parent and teacher may develop, through personal contact, greater understanding and better cooperation and may thus solve more effectively the intricate educational problems of the individual child. A secondary purpose of the association is that of a social nucleus for the education of the community to the purpose, worth, condition and needs of public education.

In a large sense, the parent-teacher association is distinctly a public relations agency made necessary by the complications of our existing social organization.

Careful study of this functional concept of the parent-teacher association must lead eventually to objective study of the activities of the various local groups and a careful scrutiny of programs and means of procedure. Appraisal of the results of activities must be considered in terms of their contributions to the social effectiveness of the instructional program.

While the end results might be the same over a long period of time, the means of procedure under this concept will probably differ radically. In this brief space only one direct illustration is possible. Let us assume a fairly general problem. A board of education builds libraries in new school buildings, but does not equip them with books. There are many buildings like this in the districts I have inspected.

The Wrong Procedure

Library books are essential to any intelligent program of modern instruction. They are used by the group and are just as much a general responsibility for the school district as is the provision of the physical library or of teacher service. Yet many boards of education do not look upon them in this way and will make no financial provision for them. The executive (principal or superintendent) realizes the need and desires quick action. This is a characteristic of executives. They are rebuffed by the board of education. Rather than laboriously educate the board to a real understanding of the entire instructional problem, they appeal to the parent-teacher association. The organized group usually responds in a most generous fashion and the books begin to accumulate. The immediate problem has been solved and many eager executives then proceed to find other weak spots that may be upholstered financially by interested parents and teachers.

In terms of the functional definition of the organization such a procedure is wrong. True, the immediate want has been satisfied, but this is a short view. What actually has happened is that the board of education has been able to throw part of its social responsibility to an extra-legal group and thus place the financial burden upon this group when in justice the charge should have been borne by taxation of the entire district.

The Right Procedure

Functionally the procedure should have been as follows. The problem of the lack of library books has been noted. The existing policy of the board of education has also been noted. The executive's first task is to educate the board of education to a different concept of the instructional policy. Since this involves the expenditure of public monies, it is also desirable that an intelligent public or community opinion be formed upon the subject. The parent-teacher association should likewise be educated to the necessity for library or general books in the teaching program. The complete problem may be presented, discussed and a definite group opinion developed. The parent-teacher associations will then serve as nucleuses to form public opinion upon the subject in the community. This expression of public opinion, plus the education of the legislative body by the executive, will result ultimately in the development of a new policy which recognizes the value and place of library books. The books will be purchased and the problem solved. The second method is a better one to pursue over a long period of time. However, it does take much more time.

This example might be multiplied by scores. Generous parent-teacher associations have been pressed for financial aid in many, many instances, and have responded nobly. Their response is to be applauded. In each case the board of education has shifted part of its burden from the whole to the few and the entire community has not been educated to the value of the agency as a part of the instructional process. Incidentally it has led, in certain centers with more than one organized group, to rivalry between schools and has given to

schools that are favorably situated economically far greater benefits and appointments than those in the poorer districts can afford. This last condition is one that deserves serious study and thought because of its undemocratic aspects and its effect upon the principle of equality of opportunity.

There is a definite place for the parent-teacher association in the functional organization. This is shown in Chart 3. Here the parent-teacher association is recognized as an extra-legal educational agency and has been placed outside of the legal organization.

It is composed of parents and of teachers in their personal aspect. It is brought into contact with principal and superintendent both in their professional and in their personal capacities. It is distinctly an organized agency for the carrying on of essential parental education activity. The effect of this program of education should be the development of definite attitudes and ideals and their dissemination among the people of the district as a whole and upon their legal representatives, the members of the board of education. It does not advise, threaten or cajole the legal or professional organization but functions simply and completely as an extra-legal public relations agency.

It is obvious that the functional conception of a parent-teacher association calls for more intelligent and careful leadership, for more hard work and less immediate action, and for greater patience and greater faith. Over a long period of time it will result in better community understanding and appreciation of the purpose, worth, conditions and needs of public education. Finally, the ultimate success of the parent-teacher association, a movement that possesses inherently great social potentialities, will depend upon how clearly its leaders realize its real contribution and how they direct their energies completely into these channels.

Cafeteria Owners Urged to Await Outcome of Waldman Case

Within the past thirty days many schools have received letters asking that they pay patent royalties for the use of a tray slide in their cafeterias.

Advice from attorneys for cafeteria owners is to the effect that at the present such payment be withheld until a case now pending has been finally settled.

Following are excerpts from a letter recently mailed out by the Food Service Equipment Association:

"Those who operate cafeterias are seeking advice about a circular letter of March 18, 1931, received from the 'Mapleton Corporation'—which is the latest name adoption of the patent promoters following a recent shift in ownership. This letter renews the earlier demands of a 'settlement' with them for a license to operate under the old Weston claims of 1916.

"As the national Food Service Equipment defense committee is convinced these claims will not hold when finally tested in the U. S. Courts, it is advised that communications be ignored but that all future demands be reported both to the equipment firm and to this office.

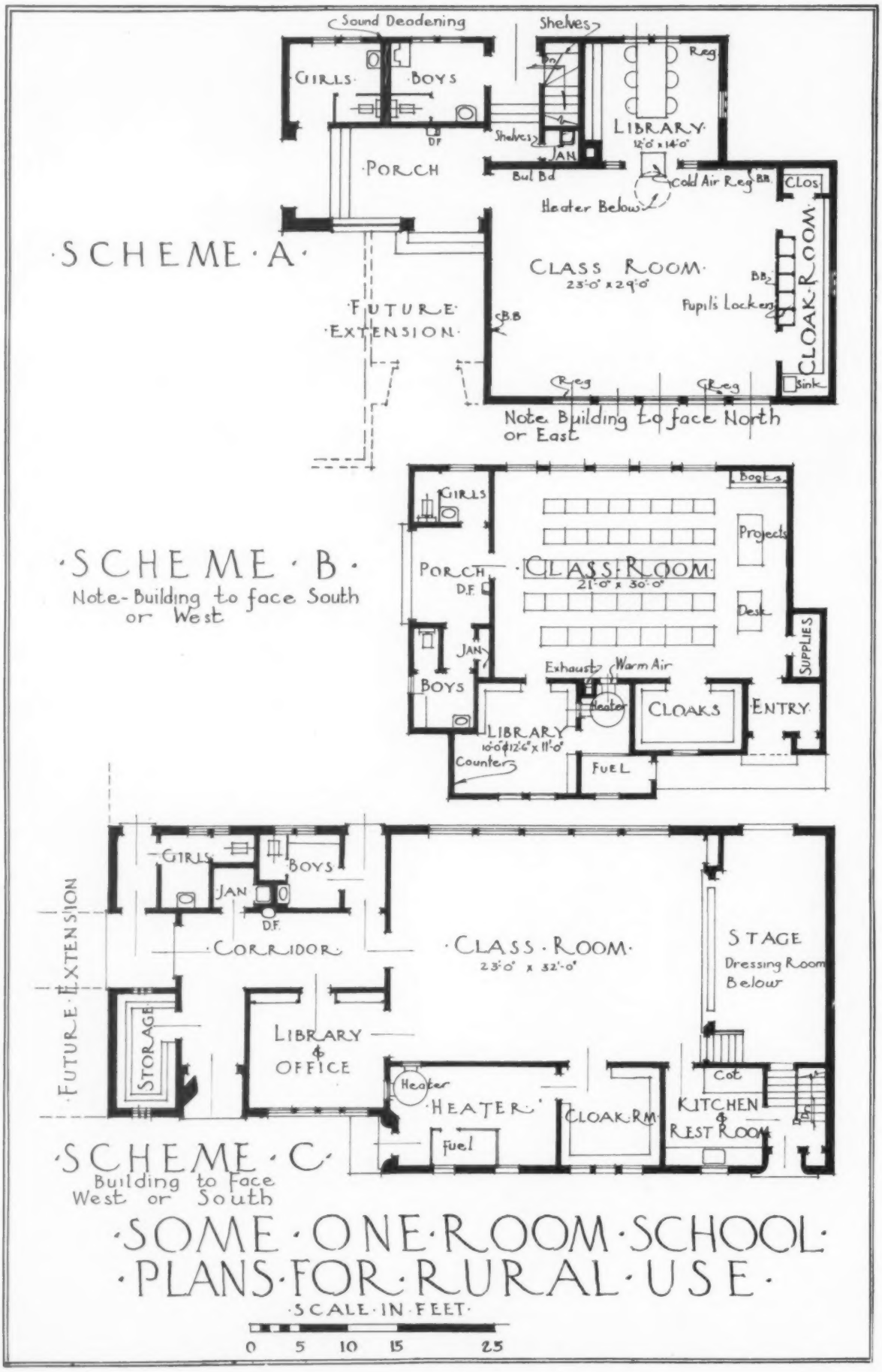
"The Piccadilly decree—which this letter cites as proof of soundness of their claims—is not recognized by the industry, for in that case those who were entrusted with the defense chose to rely on the U. S. Playing Card Company's use, a prior use example where there were neither trays nor a slide or track; and they failed to reveal to the court all the genuine evidence known and available proving that common use of the cafeteria predates Weston's 1909 application by at least two years. This evidence is now in our hands.

Letter Does Not Present True Situation

"The Miami case, which was not named but also cited in the same letter appears to be that of the Mapleton Corporation *versus* Holesome Cafeteria, Inc., 956-M-Eq.—where there was no defense. Usually a defendant takes his twenty days allowed him by law in which to prepare and file his answer to the bill of complaint and ninety days to prepare for trial. But, without reporting that he was being sued or offering to cooperate with those who could have helped him defend himself, this defendant chose to consent to a judgment against himself. Such types of cases can establish no precedent of validity.

"This letter also does not mention the fact that in Denver their bill of complaint failed to force the Waldman Cafeteria to consent to a settlement arrangement. Instead, able patent counsel has been engaged and D. M. Waldman has filed a complete answer. Soon at the trial the promoters will be required to test their claims in the face of our complete array of prior use evidence. We regard this as the first case in the country where a complete defense will have been presented. Those who have studied our evidence, expect the court will be justified in ruling that their claims are invalid in this case.

"In the meantime, thousands of cafeterias will continue to receive impressive circular letters demanding that they pay out good money now, before the Waldman case comes to trial—without offering guarantees of a refund of all monies paid them if and when the claims are invalidated."


Sound Deadening
Shelves
GIRLS
BOYS
Reg
LIBRARY
12'-0" x 14'-0"
DF
Shelves
JAN
PORCH
Bul Bd
Cold Air Reg
BB
CLos
Heater Below
SCHEME A
CLASS ROOM
23'-0" x 29'-0"
BB
Pupil's Lockers
CLOAK ROOM
FUTURE EXTENSION
BB
Reg
Reg
Sink
Note Building to face North or East
GIRLS
Book Cs
Projects
SCHEME B
Note-Building to face South or West
PORCH
D.F.
CLASS ROOM
21'-0" x 30'-0"
Desk
SUPPLIES
JAN
Exhaust
Warm Air
BOYS
Heater
CLOAKS
ENTRY
LIBRARY
10'-0" & 12'-6" x 11'-0"
Counters
FUEL
GIRLS
BOYS
JAN
D.F.
CORRIDOR
CLASS ROOM
23'-0" x 32'-0"
STAGE
Dressing Room Below
FUTURE EXTENSION
STORAGE
LIBRARY & OFFICE
Heater
HEATER
CLOAK RM
Cot
KITCHEN & REST ROOM
Fuel
SCHEME C
Building to Face West or South
SOME ONE ROOM SCHOOL PLANS FOR RURAL USE
SCALE IN FEET
0 5 10 15 25

Suiting the Rural Building Plan to Educational Needs

By ANDREW P. HILL, Jr., Chief, Division of School Planning, Department of Education, Sacramento, Calif.

This department of rural education is conducted by Helen Heffernan, chief, division o rural education, state department of education for California, Sacramento, and president, department of rural education, National Education Association-

HOW much of the typical rural school plan is the result of careful educational thought? To some rural trustees a school is just a school. I have seen letters beginning: "Dear Sir: Please send us the plans of a two-room school," or others to the effect that "the board has elected to build your plan No. 165, of which we would like two copies." I doubt whether the usual beginning teacher and her rural board are capable of making a technical statement of their educational needs. In fact, the teacher may not be consulted at all. At the majority of rural meetings her presence has to be requested.

There is something futile about isolation. It tends to simplify life, wearing down its conventions and breaking down its standards. Isolated communities are too generally concerned with local news and the petty routine of daily tasks. They tend to be satisfied with what is. Their educational standards are often those of some preceding decade. As a result, their conceptions of school needs may be old-fashioned, amateurish and considerably crystallized.

The Rural Board's Limitations

Rural boards do not always represent real leadership. On two occasions I have dealt with a one-man board—the only man, in a district settled by foreigners, who could qualify! It is likewise not uncommon to find boards of small rural schools composed of men and women who are eligible for service but are not interested in school management, except as a disagreeable task to be put behind them. Thus the plan of the school on the one hand may be conceived by a political unit whose educational sagacity is limited only to the range of human character, while the curriculums and methodology are planned by the state and county, units large enough to level out some, at least, of the eccentricities of the smaller unit. The state division of school planning is the unit that has been developed to bring planning and educational conception into harmony.

Why Surveys Are Desirable

The approach to any school planning problem is one of educational diagnosis. Such an evaluation cannot accept what is as an expression of what should be. Building time is a time of regeneration, and searching questions that affect the administration, organization, the geographical character of the community, the racial groups involved, the curriculums needed and the local ability to support a school are all in order.

In principle most of our states are in dire need of a fundamental political reorganization in respect to school planning. To get proper roads for a school bus to run on is now a political undertaking. To secure improvement in a road that runs from one county to a community school situated in an adjacent county is almost a futile undertaking. Unionization or consolidation in most states is a burden on the districts involved. The results are two-fold: (1) Larger units cannot be formed without measurably increasing local taxes. (2) Because the districts bear the cost of and manage the elements responsible for this increase, the busses provided are sometimes uncomfortable and unsafe, the amount of support money inadequate, and the development of the building units ordinary and sometimes ill arranged.

These elements, among others, have contrived to help confine community or union schools to those areas only where a majority of the people

appreciate the need of larger school units and have the wealth to support them. Thus in California, which is generally considered one of our most progressive states, 55.1 per cent of the elementary districts have one-room schools and at least half of these would benefit materially by unionization. Until the state adopts a constructive relationship toward the rural school, we cannot hope to place rural and urban education nearly on a par.

One-Room and Two-Room Schools Discussed

It is not the purpose of this article to discuss the intricacies of state and local financial relationships. It seemed necessary, however, to mention their dynamic relationship in passing. Neither can the cultural and esthetic needs of the rural school be comprehensively developed. This article is written for educators, and I shall have to assume on the part of the reader a sympathetic appreciation of the need for cultural leadership.

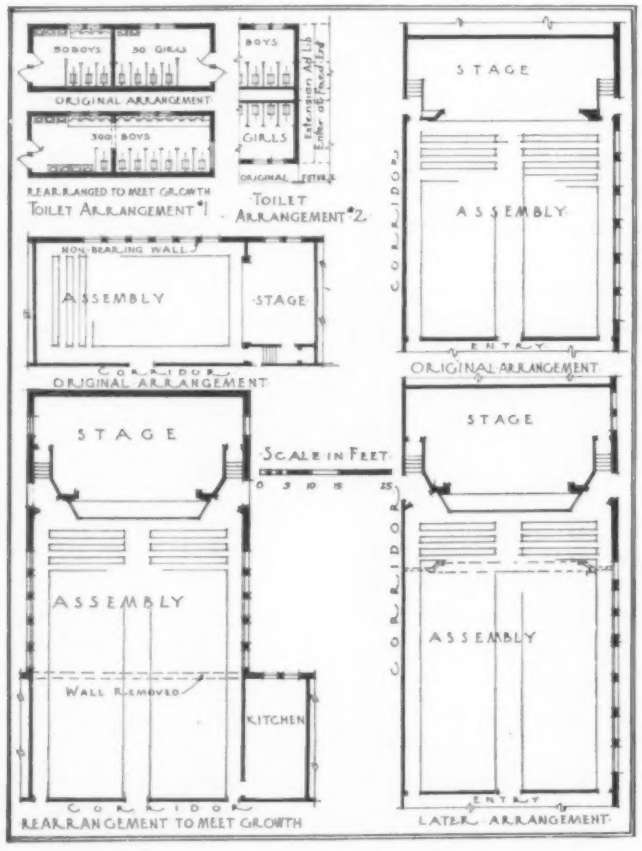


Fig. 1.—Plans showing future toilet and auditorium enlargements.

I shall attempt to deal directly with the planning of the rural school building itself.

For our purposes the problem of the one-room school, the two-room school and a larger union or community school may be examined. Considerable attention will be given the first two types, because they represent the type of housing now prevalent in a majority of the districts in most of our states.

Until transportation conditions are revolutionized we shall continue to have the one-room school. It exists legitimately in sparsely settled or isolated communities. In most cases the reasons for its existence are likewise arguments for its use for community functions. It can be used as a meeting place for the farm center or local grange, as a community social hall, as a civic clubhouse or on Sunday, perhaps, as a church.

As has already been observed, local finances too often interfere with an ideal solution of the problem of the rural school. The order of preference may well be: (1) Supply first the housing definitely demanded by the school curriculums. (2) Place emphasis next on good construction and proper site development. (3) Arrange for community use as finances permit.

The essentials of the layout are: Be sure the building is properly oriented, keeping classroom exposure away from the play area if possible. The building will be more impressive in appearance if its length faces the road. Most buildings should be definitely planned for future additions. The supervision of building and grounds is of prime importance, and easy control of the praygrounds, toilet conditions, supply areas, cloakrooms, corridors and the classroom is essential. Delivery roads, walks, entrances and their relation to storage areas are often important. The classroom should interpret the teaching process. Hygiene, as it relates to exposure, cross ventilation, heating and janitor work, should receive careful consideration.

Factors That Affect Location

Orientation is not simply a matter of exposure. Standard classrooms should be on a quiet exposure, where street dust does not blow into the rooms. It is an advantage for classrooms not to face the play areas, as such an exposure forces the use of window guards at the expense of valuable light. A classroom with a normal window area may be insufficiently lighted because of any or all of the following causes: too great an eaves overhang, which cuts out valuable top light; dark sheathing and rafter ends in the cornice which absorb reflected light; fly screening, particularly when copper screen has not been used, with consequent rust and corrosion; window guards, especially when $\frac{3}{8}$ or $\frac{1}{4}$-inch mesh "hardware cloth" is used; dirty sash, often due to screen or guard frames being nailed or screwed into place, making window washing a tedious job; ceiling, side wall and woodwork colors so dark as to have a high coefficient of light absorption; sash curtains at

the windows; window heads too low for the room width; windows placed too far forward; dark green or brown shades; shades that pull from the top downward only; trees or buildings near-by that decrease the open sky area.

To what avail is professional knowledge of the factors affecting light if sites are purchased that set up conditions affecting light, if buildings are designed that guarantee light in quantity and then destroy it with improper details or if curtains or shades are incorrectly installed and interfere with suitable light? At this point one conclusion can be drawn fundamental to all types of schools—the site selected definitely affects the plans of the building and may interfere materially with its lighting and ventilation.

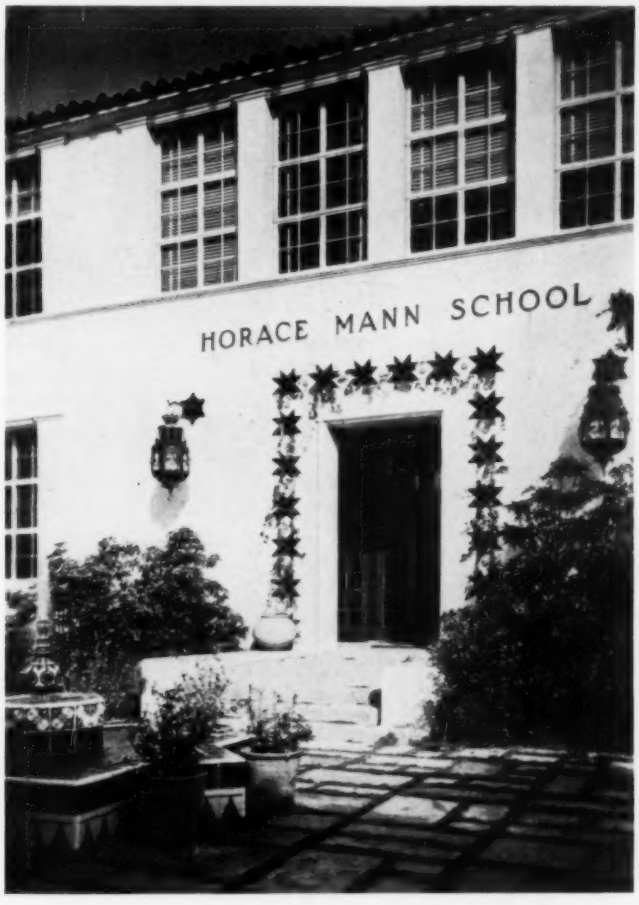
Plan Should Be Flexible

Future additions should be arranged for in most school plans. Additions should not demand a remodeling or reorganization of the building. On the contrary, they should fit into the plan with a minimum of change and cost. Elementary schools need to enlarge in three essential respects: by adding more classrooms or special rooms; by enlarging toilet facilities; by enlarging the auditorium.

The prevailing schemes for enlarging toilet facilities consist of making toilet rooms large enough to accommodate additional fixtures as the school grows; planning the toilet stalls for each sex, back to back, and connected to a common utility chamber; making the outer walls filler walls, so the toilets can be extended outward from the building without disturbing the entrances or the original fixtures; planning toilets next to each other with a filler wall between which when removed will make one large toilet for one sex, the new addition to provide the toilet for the other sex; building a second set of toilets in the future for the primary children (a scheme usable only when the school grows to considerable size).

Auditoriums are planned as one room with a stage, two rooms connected with accordion or sliding doors or a small room of wide span, arranged to extend outward. The second scheme contemplates the eventual abandonment of the room as an auditorium in favor of new provisions in some future addition. Toilet and auditorium enlargements are depicted schematically in Fig. 1.

Ease of supervision is of particular importance in rural schools. A full view of the playground from a classroom or from the office is a distinct aid. Work or study rooms should be so designed that they can easily be under constant supervision by a teacher. The toilets should connect with the building and the play areas. The floor is best dropped down to the approximate play level, as children use the toilets 95 per cent of the time from the play areas. Because this practice interrupts their play, children are usually in a hurry and are not inclined to be careful about wiping their feet. Where toilets are inside the building and on a level with the main floor, grit, dirt and



The Horace Mann School, Beverly Hills, Calif.

noise are carried into the building. Moreover, when children are about the building must be left unlocked, thus giving each child who visits the toilet access to the corridors and rooms at a time when the staff is liable to be supervising play.

Toilet fixtures should be arranged along the walls so that all of them can be supervised at a glance. Cam or spring hinges, which leave all stall doors open except when in use, are most desirable.

Entrance to the cloakrooms should be from the classroom only. When the room is of odd size with only one opening, this should never be narrower than 3 feet 6 inches to allow for countermarching.

Supply rooms for janitorial and school supplies should be securely locked with cylinder type locks. A work counter in the supply room, where work under preparation may be dropped and taken up again as conditions permit, is convenient. A jani-

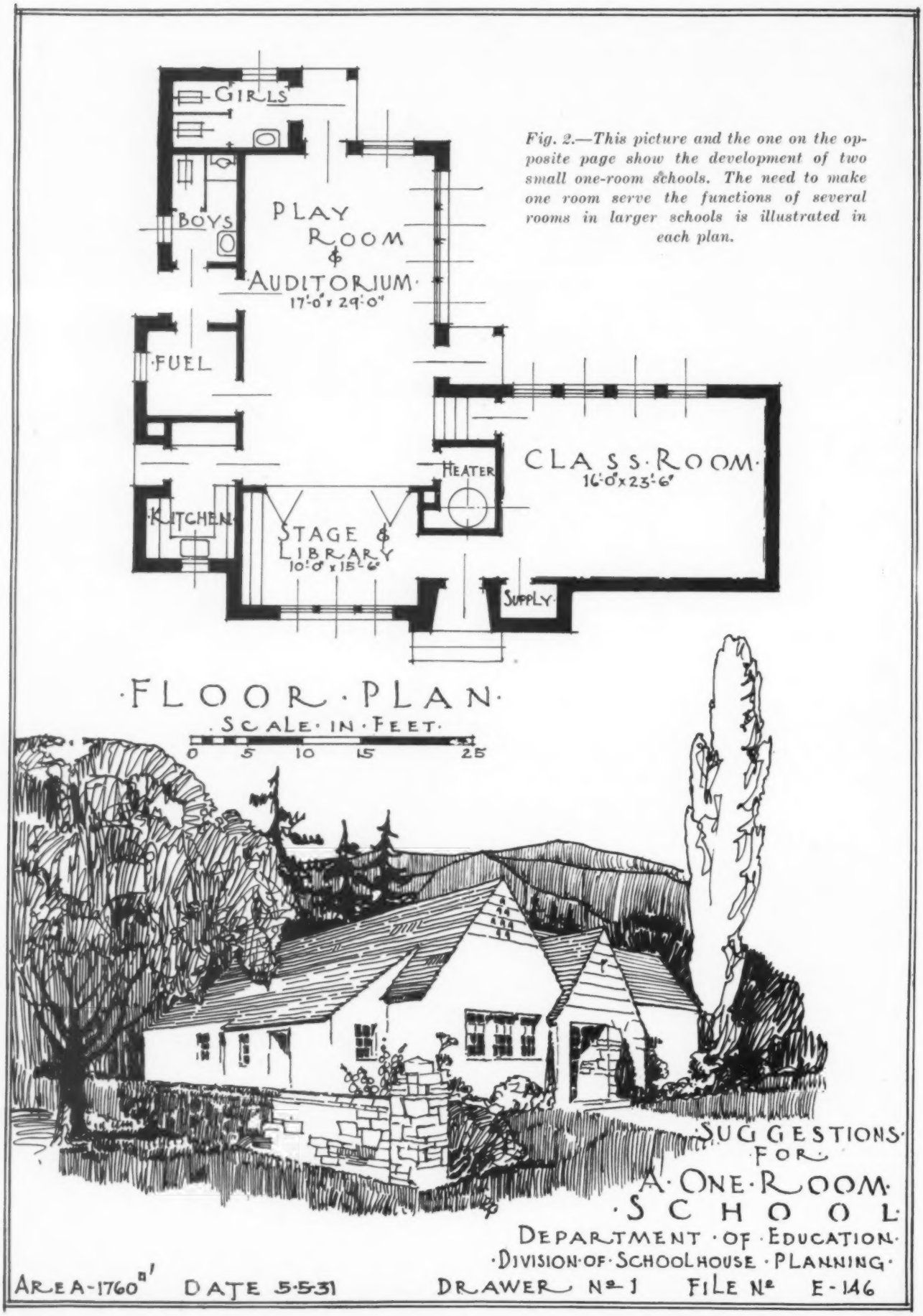
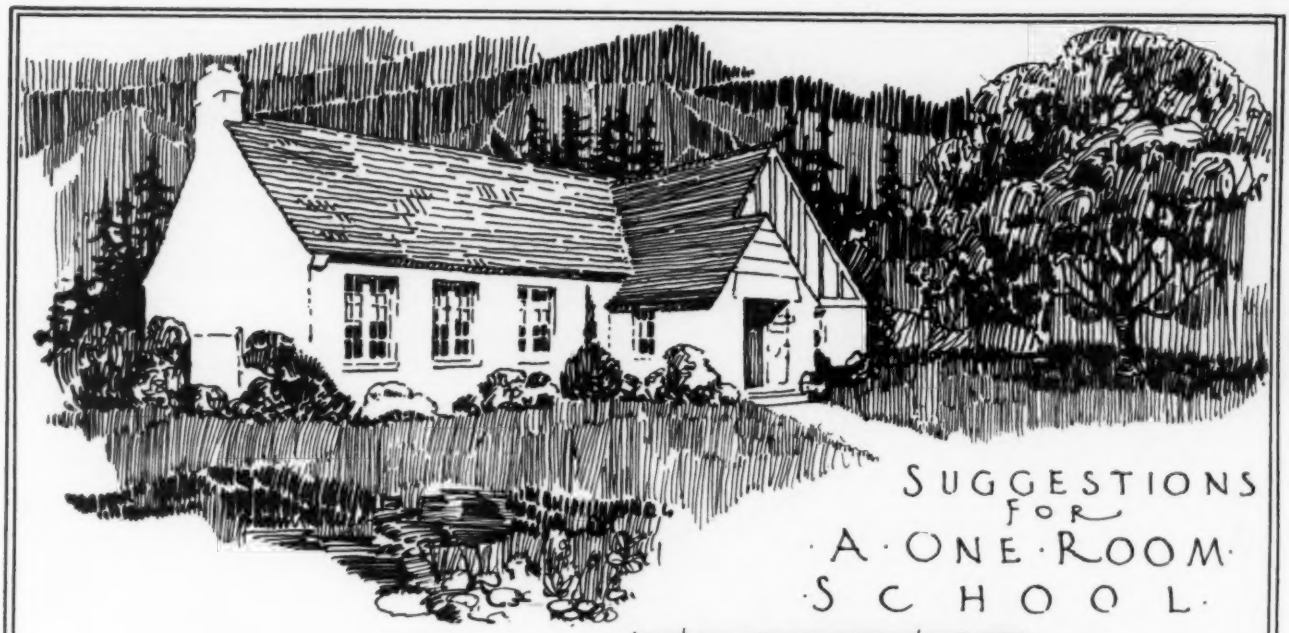
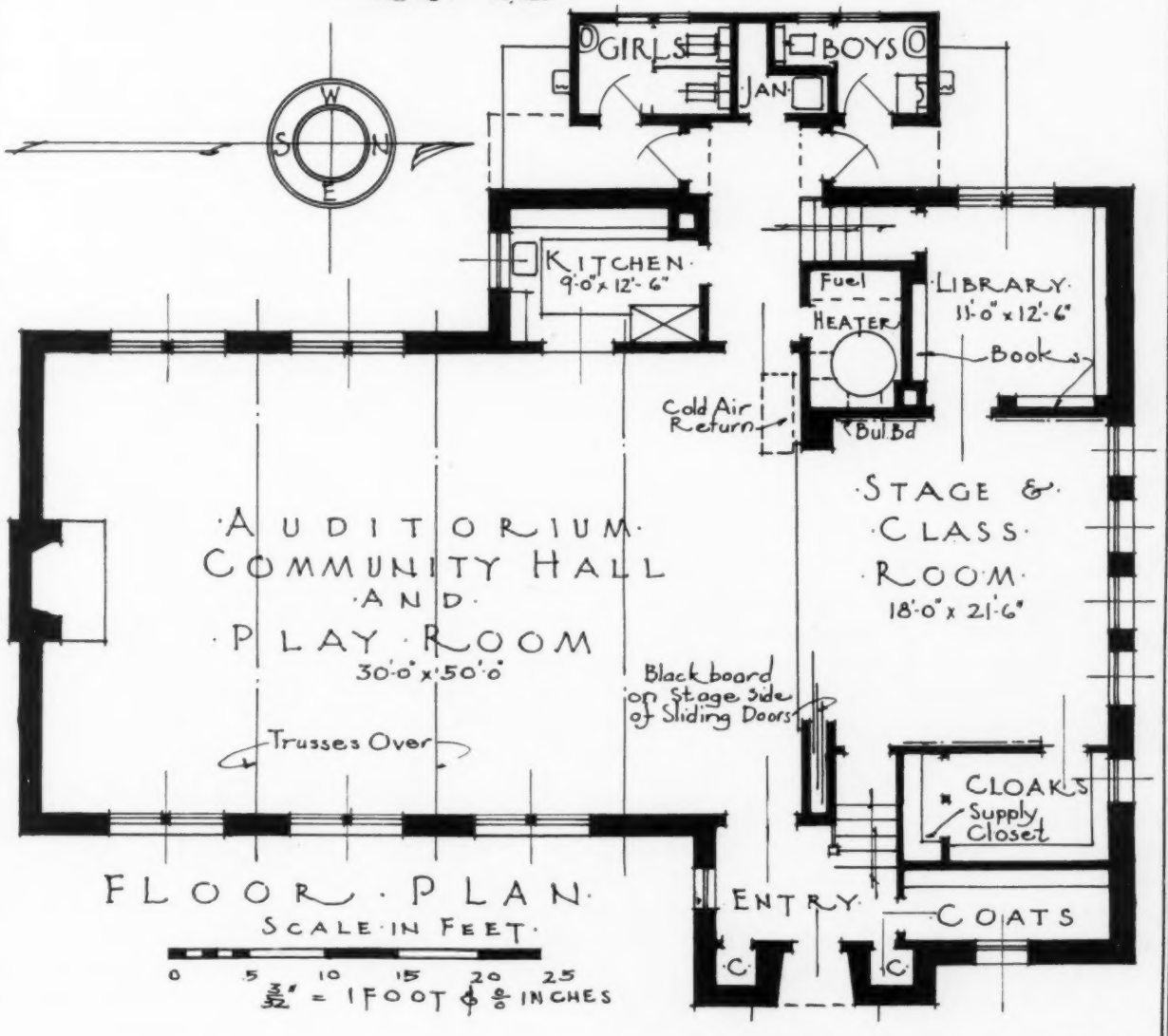


Fig. 2.—This picture and the one on the opposite page show the development of two small one-room schools. The need to make one room serve the functions of several rooms in larger schools is illustrated in each plan.



SUGGESTIONS FOR A ONE ROOM SCHOOL



FLOOR PLAN

SCALE IN FEET

0 5 10 15 20 25

$\frac{3}{32}$" = 1 FOOT $\frac{9}{0}$ INCHES

DEPARTMENT OF EDUCATION
DIVISION OF SCHOOLHOUSE PLANNING

COST 154 AREA 3386 $^{\square'}$ DATE APRIL 5, 1931 DRAWER Nº 1 FILE Nº E-144

tor's work space is essential in buildings large enough to afford a janitor. Electric fuse plugs should be kept under lock and key. The main toilet areas should always be supplied with a janitor's service closet.

A proper circulation of heat and fresh air must also be guaranteed. The exposure and natural ventilation of toilets should receive careful thought. Wainscot and floor materials that are as nearly impervious to water as finances permit should be chosen. Hose bibbs and floor drains are two other essentials. A walk or paved area for children to walk over before reaching the school entrance, with its mats and rugs, will be found of distinct importance in eliminating grit and dirt and the consequent interior floor wear.

Modern teaching methods demand distinctly different facilities from those of yesterday. Living the curriculum calls for the development of individuals through activities. The room plan must accommodate these experiences which include work in music, numbers, reading, social science, art and physical education. For each of these activities there should be provided a work space for the child and a place to keep his materials and work, a desk or other station for the teacher and a place to store her personal belongings and bulk classroom supplies.

Special Equipment Needed

Music courses will require a piano or organ, a victrola, possibly a radio, a place for children's books and storage for whatever instruments are used. Numbers may be taught by drill, by textbooks or by games. The school furniture should be convertible for these various usages. Small rural schools are forced to make the classroom the library. A reading and study table, with ample shelving near-by for books and magazines, often meets the need. Sometimes a library room or alcove which may be supervised from the classroom is provided. Such an arrangement allows some pupils to study without interruption from the recitations of other classes. The social science courses require books (references of all sorts), project tables, project materials, convenient running water, drawing and construction materials, places to keep work under preparation, maps and charts and hangers for them, spaces to pin up drawings, prints and small charts, and a blackboard for illustrative purposes. Art and construction work demand similar facilities, with work tables or benches, tools and supplies. While nature study is often conducted outdoors, every real teacher will accumulate a collection of rocks, pods, coconuts and birds' nests. If these materials are worth collecting, they are doubly worth keeping, and they cannot be preserved by carelessly stuffing them here and there in cupboards that are already bulging.

Meeting Physical Education Needs

Physical education is as much a part of the educational program as arithmetic or music. It is usually fairly well provided for by exterior apparatus and play areas. Adequate storage for playground supplies, however, convenient to these outdoor areas, is seldom provided.

Physical education facilities within the building are usually ignored or it is assumed that a basement 8 feet high is adequate. The latter permits little in the way of approved work, and outside of formal exercise, marching, dancing or tag games it has no value.

To meet the requirements of a real indoor program, we are beginning to see the need for playrooms. In small schools these need not be over 16 feet in the clear and about 28 by 40 or 50 feet. They should be well lighted and a fair amount of heat should be provided. Entrance to the school may be through the playrooms, these rooms acting as a buffer for wearing playground grit and dirt off of the children's feet. They should be practically level with the ground, convenient to the toilets, and equipped along the walls with movable benches. Thus the rooms may be useful for eating lunches or resting in hot weather. The walls should afford good practice for handball, tennis driving and ball throwing. Except where wainscots are provided for games, there is no need to finish a playroom. In California we have erected admirable playrooms at a cost of $2.50 per square foot or less. A school recently visited could not afford a floor. The ground was raked and sprinkled each night by the pupils. I arrived during the spring marble season and as far as this activity was concerned the floor was ideal. A good asphalt floor is acceptable in a playroom. It is fairly warm under foot, is not as slippery as wood and is resilient enough to decrease the shock of a tumble.

What Illustrations Show

To demonstrate the practicality of the ideals expressed, we shall spend the rest of our time discussing actual plans. Fig. 2 (see pages 64 and 65) shows the development of two one-room schools. Here the classroom area has been kept small, so that it is easy to supervise and to keep warm. The need to make one room serve the functions of several rooms in larger schools is illustrated in each plan. Thus the library is also an office, rest room, nurse's room, book storage room and, in one case, a reception room. The playroom provides ac-

commodation for hot lunches and parent-teacher meetings and acts as a community hall. In one scheme the library and in the other the classroom form the stage. In both plans the toilets are well related to the play areas, and a furnace is piped to heat the classroom, library or playroom or all three, as conditions necessitate. Property and chair storage are provided for in both instances. These plans represent one-room schools in restricted areas where there seems no likelihood of future growth.

Fig. 3, page 60, depicts other types of one-room schools. Scheme A is designed for a school in a growing community. A classroom, study alcove, toilets, janitor storage and basement for the heating plant are provided. The enlargement of the toilets (outward) and the addition of more classrooms and other functions are provided for on the left.

Scheme B shows the one-room school reduced to its elemental essentials. The covered play area is a porch only. The classroom and library, however, approach the ideal. These schools do not adapt themselves to community gatherings.

Scheme C shows a one-room auditorium of the classroom type. The arrangement is typical, and future extension is possible for an enclosed playroom, toilets and additional classrooms.

Fig. 4 shows the plans of a two-room school, one room used as an auditorium and classroom and one as a classroom only. The other features needed for a small school approaching the ideal are included: a kitchen for hot lunches and community refreshments, a library-office-rest room, a garage for the school bus, a pump house, fuel room, heater plant (in basement), janitor's storage and a large covered play space. The exterior of this plan is shown to illustrate its informal appearance, and a plot plan is included to show the development of ideal play areas.

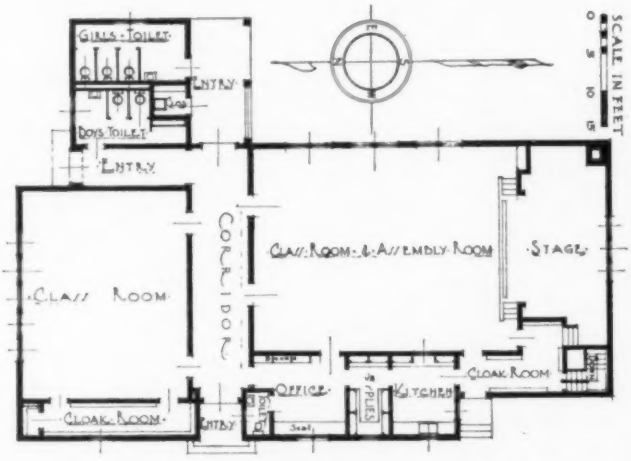


Fig. 4.—Plan of a convenient two-room school.

A two-room school in which an auditorium is formed by throwing the rooms together by means of accordion, rolling or sliding doors, is a type of school which while much in vogue, has several serious drawbacks: Accordion or other patented doors get out of order easily, because of difficulty with the operating mechanism, settling of the building or shrinkage. Full width doors between rooms do not afford suitable sound insulation. Blackboards and troughs on such doors are not practical. Where two classrooms are thus joined the resultant auditorium is between 60 and 64 feet in length—too narrow for good proportion, and too long for good audibility. Such a combination usually infers the use by the public of the regular classroom seats. These are uncomfortable and unsuited for adults. The standard classroom ceiling height of 12 feet does not permit installing a stage in good proportion to the end of the room, and the stage width, which cannot be much over 16 or 17 feet, is too narrow for school activities. The floor of the stage should be from 3 feet to 3 feet 6 inches above the auditorium floor. Use of the auditorium disturbs two classrooms. A long narrow room wastes aisle space.

The type of auditorium shown in Fig. 4 avoids

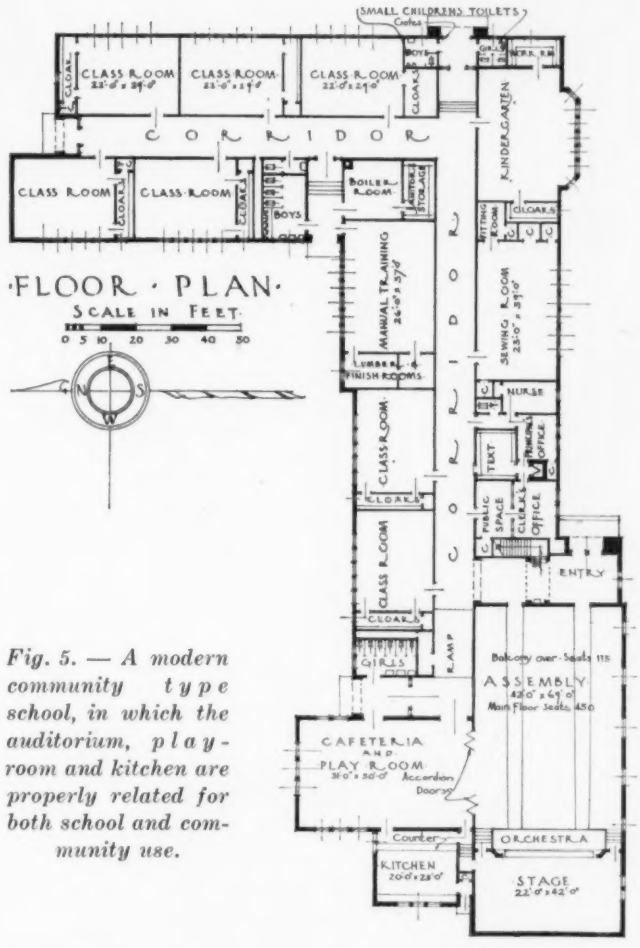


Fig. 5. — A modern community type school, in which the auditorium, playroom and kitchen are properly related for both school and community use.

most of these disadvantages and does not cost appreciably more than the combination scheme, when the best grade of connecting doors is provided. Its additional advantages are: It provides space outside that occupied by seats for project tables, study tables, sewing, handwork and the like. The auditorium can be used with a minimum amount of disturbance. The majority of the audience is seated in folding chairs. The stage is wider with the seats well related to it. Opportunity is provided to enlarge the assembly, if necessary.

Fig. 5 depicts a modern community type school. The auditorium, playroom and kitchen are properly related for both school and community use. With the hidden cafeteria service shown, the playroom can be converted into a cafeteria at a moment's notice. The administration room of the smaller plans has enlarged into a suite of rooms, compact in their relationships and easy to supervise. The toilets are permanently located, so that future extensions need not disturb their relationships to the play areas. The arrangement by which they can serve the play areas before and after school without exposing the interior of the building to pupil traffic should be noted.

These plans are indicative of modern education. They recognize financial restrictions as well as curriculum needs. In contrast to the balanced classical buildings that interpreted the formal education of three or four decades ago, these informal layouts have developed from the functional ideals of this age, the most dominant being a recognition of the need for pupils to progress as individuals, while they live together in social harmony.

How Rural Communities Have Been Helped by Recent Legislation

Educational legislation for many years has tended to increase state responsibility for equalizing educational opportunities, according to Ward W. Keesecker, associate specialist in school legislation, Office of Education. Rural, rather than urban, communities have benefited mostly by this tendency, he says. Recent legislation has not only been concerned in the creation and development of state school equalization funds but has also been greatly concerned with the distribution of such funds.

Considerable legislation has been enacted designed to distribute state school funds to communities, particularly rural, whose school facilities are below the level prescribed by the state. Legislation resulting in state aid to financially weak rural districts has appeared in a large majority of the states during the past decade.

The legislative tendency, so conspicuous in the previous decade, to provide for local administration of schools on a countywide basis continued during the past ten years. Legislators have shown a disposition to abandon the idea that the county superintendency is an old-time county office, such, for example, as the county treasurer; and the principle that the relation of the county superintendent to the county school board should be similar to the relation of the city superintendent to the city school board is gaining legislative sanction.

Current legislation to this end generally includes one or the other of the following two types of provisions: (1) provisions for increasing the powers and functions of county school officials and organization already established; (2) provisions which authorize counties by a vote of the electors to merge or consolidate their school districts into a county school unit.

The Motor Bus—A Definite Part of Modern Education

The recent school bus tragedy in Colorado turns attention to the important rôle the motor bus plays in modern education.

According to information gathered by the Office of Education, approximately 2,000,000 children are carried to and from school daily by this means of transportation, and the bus that stalled in the Colorado snow was only one of nearly 50,000 such motor vehicles that daily serve about 17,000 schools throughout the United States.

Since 1869, when the first state law for transportation of school children was passed by Massachusetts, which was followed by similar laws in Vermont in 1876 and Maine in 1880, practically all states have enacted some form of legislation permitting transportation of children to and from school. Delaware and Wyoming, in 1919, were among the last states to enact school transportation legislation. In many states transportation is compulsory for pupils living a certain distance from the school building.

The cost of school bus service in the United States during 1930 is said to have been approximately $40,000,000. Of this amount Indiana probably expended more than any other state, nearly $4,000,000, while North Carolina, Louisiana, Ohio, Iowa, Mississippi, Minnesota and California, each disbursed more than a million dollars for school bus operation. Practically every state operated more school busses in 1930 than in any previous year, statistics show.

How the Various States Conduct Teachers' Institutes

A brief study of county institutes as they are now held reveals that the methods of Horace Mann, credited with founding this practice, still predominate, with modifications

By E. A. HUNT, Director of West Virginia Institutes, Department of Education, Charleston, W. Va.

WE ARE indebted to Horace Mann for teachers' institutes.

Horace Mann was secretary of the state board of education of Massachusetts for a number of years. He realized that if his state was to have a better school system, the people must know more about the school conditions within the state. He tried to arouse the public on behalf of better schools, but he felt that the teachers also must be aroused and instructed. He knew that teachers needed instruction and inspiration. Accordingly he organized a system of county institutes where teachers were instructed by the leading educators of Massachusetts and other states.

The work carried on in the institutes was both academic and professional. Instruction was given in the elementary subjects, in the principles of education and in the art of teaching. In addition to the routine work, two or three inspirational lectures were given during the institute session.

From a brief study of the teachers' county institutes as they are now conducted in the respective states of the Union, we find that the methods of Horace Mann still predominate, with modifications.

Explaining Educational Programs in Alabama

Alabama has an annual two-day institute in each county of the state and in cities having a population of 2,500 or more. These institutes are held just before or soon after the opening of the public schools and are under the direction of the county and city superintendents. The state department has a representative at each. No special instructors are employed. The objects of the institutes are to explain the county, city and state programs.

Arizona is divided into four sections or districts and institutes are held annually in each district under the direction of the state teachers' association. These institutes are held in October or November and continue three days. The state board of education and the state association meet the expenses jointly.

Arkansas requires all teachers to attend a teachers' institute for at least three days. The institutes are under the direction of the county superintendent, who selects the date, usually prior to the opening of school. The object is to set forth the plans for the year. In some places the county is divided into sections and meetings are held in groups rather than on the countywide plan.

Practices in Force in Various States

In California teachers' institutes are entirely in the hands of local authorities. Institutes are held by both county and city superintendents, who direct the making of the program and have charge of its execution.

Colorado has thirteen districts for institute purposes in which teachers' institutes were formerly held, but a recent law requires school attendance at recognized institutions, thus practically eliminating teachers' institutes in that state.

Connecticut does not have teachers' institutes in the sense in which we use the term. The fund formerly used for institutes is now used in providing summer normal schools. These schools continue for six weeks and are of postnormal grade. Teachers' conferences are frequently called by the directors of rural and elementary education.

In the District of Columbia under the rules of the board of education two days may be set aside each year for teachers' institutes. Since 1920 a portion of a day (evening) has been used for this purpose. The teachers' council selects the speakers and meets the expenses out of the funds of the council. No funds are appropriated by Congress to provide for teachers' institutes.

Florida makes no provision for teachers' insti-

tutes, although the state is divided into twelve districts in which teachers' meetings are held for one or two days each year. Teachers are paid if they go to these meetings, but are not required by law to attend.

Idaho is divided into six districts. A teachers' conference is held in each division. These meetings usually continue two days. Teachers are not required by law to attend these conferences but they receive pay for attendance. This work is under the direction of the Idaho Education Association.

Illinois holds teachers' institutes in each county of the state for not fewer than five days. These institutes are under the direction of the county superintendent, who plans the program, sets the date and determines the number of days in each session, beyond five.

Indiana has an annual five-day institute in each county of the state. We quote from the Indiana school law: "There shall be held in each county in Indiana, in each year, for five successive days, a teachers' institute, and for the purpose of defraying the expenses of such institute the county auditor shall annually draw his warrant in favor of the county superintendent on the county treasurer for $100." Since the $100 is not sufficient to meet the expenses of the institute the teachers are charged an enrollment fee of from one to two dollars.

The five-day institute now prevails in Kansas. A course of study prepared during 1928 by the state department of Kansas dealt with the Kansas school system, its weaknesses and needed reforms.

Kentucky abolished teachers' institutes. Most of the school boards of the state call a meeting of the teachers for a conference prior to the opening of school.

Maine is using her normal schools in the place of institutes. One-day rallies are held annually in each county. The day program is for the teachers and the evening program for the community.

Summer School Work in Maryland

Maryland is using her summer school attendance in lieu of teachers' institutes. The law requires a county superintendent to send one-fourth of his teachers to school any year he fails to hold a ten-day institute. This law has been in force since 1916. All counties in Maryland are now conforming to the law and are sending teachers to school. Many hold a one, two and three-day institute in addition to the summer school attendance. These short institutes are held by county superintendents for the purpose of placing before the teachers the plan of work for the year and of acquainting the new teachers with the school system.

Massachusetts has one-day county meetings, largely inspirational in character, under the direction of the state department. Teachers with common interests are called together in conference once a year.

Michigan has a one-day institute in each county. The women teachers are charged an enrollment fee of fifty cents and the men, one dollar. These fees go to make up an institute fund. Two instructors are employed for each institute, one from outside the state, the other from within. The lectures are on such subjects as world politics, national educational movements and research work and on inspirational topics. The state is also divided into nine districts in which association meetings are held in October and November. The annual membership fee is two dollars. A ten-day association meeting is held in each district. Practically every teacher in the state belongs to the association.

Rural Institute in Minnesota

Minnesota conducts institutes for the rural teachers only, of whom there are 8,000. The law authorizes that a part of the traditional five-day institute be used by the instructor in visiting the schools. At the close of the week a one or two-day institute is held to discuss the problems that confront the local teachers. This plan is followed throughout the state.

Mississippi has discontinued teachers' institutes and now has a six weeks' summer school instead.

In 1901 Missouri discontinued teachers' institutes. The law requires the county superintendent to hold a two-day meeting prior to the opening of schools in his county, and the teachers are required to attend.

Montana holds group meetings instead of institutes. The state supervisor of rural schools spends several days in a county visiting schools and then calls a conference of the teachers. Several group meetings may be held in one county. At these meetings emphasis is placed on the teaching of certain subjects. Usually one subject is emphasized each year. The state supervisor does most of the demonstration teaching.

In Nebraska the institutes are limited to three days and are largely of an inspirational type. Teachers are required to attend or have their certificates revoked. The work is under the direction of the county superintendents.

Nevada is divided into five districts for institute purposes, and an institute is held in each district every odd year. A state meeting is held on the even numbered years. Teachers are required to attend the district meetings, but not the state meetings. The minimum length of the institutes is four days, the maximum ten days.

New Hampshire has reduced her institutes to

one day in each county of the state. All the teachers in New Hampshire are normal school or college graduates, hence the institute has served its purpose, they think.

New Jersey has the same conditions as New Hampshire and follows practically the same plan.

New Mexico discontinued institutes and requires her teachers to attend summer schools.

New York State does not have teachers' institutes. Teachers' conferences are held occasionally by supervisors and superintendents. All teachers are normal school or college graduates.

Most North Carolina counties hold a two-day teachers' conference. Fifty per cent of the teachers of the state attend summer schools.

In Ohio the county board of education determines by the first of February each year whether a county teachers' institute will be held in that county. In some counties the institutes are financed wholly by the county board, in others partly by the county board and partly by fees that are paid by the teachers. The county board through the county superintendent arranges for the employment of instructors or leaves the selection of instructors to a committee elected by the state teachers' association. Each teacher who attends a five-day institute is paid ten dollars. A city may or may not cooperate with a county in holding an institute.

Oklahoma requires all teachers to take summer work at recognized schools in lieu of institute attendance.

Oregon holds a two-day conference in each county of the state under the direction of the county superintendent.

Methods in Other States

Pennsylvania is now undergoing a transition and has both county and district institutes. Institute substitutes of various forms are allowed under the law, but must be approved by the state department. The substitutes are extension courses, curricula study, surveys and conferences.

The Rhode Island State Teachers' Association holds an annual three-day conference in October or November. The enrollment is 100 per cent of the teachers of the state. It is claimed that Rhode Island has the oldest state teachers' association in the United States. The program for the conferences includes professional and inspirational lectures. Ninety per cent of the teachers in the state are normal school or college graduates. Undergraduate teachers are required to attend summer school for six weeks. Fifteen hundred teachers are enrolled annually in extension courses.

In South Carolina undergraduate teachers are required to attend summer school for six weeks every third year. The required summer school load is at least three subjects.

South Dakota holds a three-day institute in each county, but the state department is thinking of reducing the sessions to one day. The money saved will be used in employing rural supervisors.

In Tennessee institutes are usually held for from one to five days in each county, but the law does not require that such institutes be held. If an institute is held, teachers are required to attend or to do a quarter's work in a teacher training institution.

One and Two-Day Institutes Popular

Texas requires teachers to attend institutes for two consecutive days, providing the county superintendent holds three additional teachers' meetings during the first nine months of the school year. Professional and inspirational lectures are given at the institutes.

Utah holds institutes in all of its counties for one and two days. The institutes are conducted mostly by local school men and women.

Vermont stresses summer school work instead of institute attendance, although some county superintendents hold one-day institutes.

Virginia has institutes for one and two days prior to the opening of school. The whole program is under the direction of the county superintendent.

The Washington school law requires a county superintendent to hold a three-day institute when he has twenty-five or more school districts. Attendance on the part of the teachers is compulsory.

West Virginia holds a three or five-day institute in each county. The county superintendent may decide on the three or five-day plan. If a county superintendent chooses to hold a three-day institute, he is required to hold additional meetings equivalent to two more days of institute work. The law requires all teachers within the state who teach in elementary or high schools to attend the institute for five days. High school institutes are conducted for high school teachers, but these teachers may attend an elementary institute and receive credit. Teachers are allowed two and one-half dollars a day for institute attendance, which is paid at the close of school out of the teachers' fund of the respective magisterial districts of the state. They are charged an enrollment fee of one dollar and twenty-five cents. The state legislature appropriates $15,000 annually for institute purposes.

Wisconsin has institutes in each county. The average session continues for two days.

Wyoming has an institute law similar to that of West Virginia. Institutes are held for from four to eight days.

Eliminating Subject Failures in the Junior High School

How a combination of remedial measures was used to solve the general difficulties as well as the personal problems of failing pupils, is described here

By MORLEY J. DUROST, Principal, Central Junior High School, Mansfield, Mass.

IT IS suggested that this article be read as a record of a successful attempt to use a combination of procedures to solve a problem too frequently met in the junior high schools—excessive subject failures—rather than as a theoretic formula for the elimination of all such ills.

At the end of the first two months of the school year 1927-28 in the Central Junior High School, Mansfield, Mass., we found the school burdened with 208 subject failures among a student group of 310. (By subject failure is meant a failure to maintain an average standard of 70 per cent in any prepared subject.)

A careful survey revealed two underlying reasons for these failures. First, pupil placement had been neglected, with the result that each class had a mental range of almost eight years. That is to say that in a given seventh, eighth or ninth grade might be found children whose mental ages varied nearly eight years. The difficulty to be experienced in trying to adjust a curriculum content to this group is obvious. Second, subject or study motivation was lacking.

Our first remedial measure was the employment of two group intelligence tests. The results of these combined with teachers' ratings, gave us the basis upon which we divided the classes into three progress ability groups. The first group consisted of those having an I. Q. of 95 or less, the lowest being 69. The second group contained those whose I. Q.'s ranged from 96 to 115. Those rating above 115 made up the superior group. The highest in this group was 154.

The results of this plan were twofold. First, it eliminated a major portion of the disciplinary problems that had previously beset the school. No longer was it necessary for the impatient and energetic upper third to wait in idleness and mischief for the lower third to catch up. Second, it dissipated a great deal of the persistent spirit of defeat that had marked the vain efforts of the slow to compete with the more richly endowed.

With such a wide mental range existing within the group, as suggested by the I. Q.'s of 69 to 154, it was evident that little would be gained academically by merely dividing them into homogeneous mental groups if after the division each group were given the same curriculum content. The solution of this problem lay in the introduction of the contract method of presenting the subject material to the classes. This plan was first worked out at the University of Wisconsin by Inez Parshall, Akron, Ohio. It is based on the assumption that every member should be required to master the minimum essentials required for promotion. To this end all teaching effort is directed. All classroom drills and practice are concerned with this common requirement that forms the integrating element in the curriculum. A job sheet or written statement of both the required and the elective work is presented to each pupil. This ensures a careful analysis of the subject and constructive lesson planning on the teacher's part, while for the pupil it provides an ever present knowledge of the required daily assignments.

How Elective Subjects Stimulate Pupils

As fast as a pupil has completely mastered this part of the work there is available for him the extra elective assignments, closely correlated with the required work yet designed to enrich the course content and broaden his interest and viewpoint.

The tabulation of the results in the eighth English classes, shown in Table I and Table II, reveals some interesting and significant facts regarding the use of this method.

We may note in Table I that the first job or contract, which was of a review nature partially,

TABLE I—ALL ATTEMPTS, SUCCESSFUL, PARTIALLY SUCCESSFUL OR UNSUCCESSFUL, TO DO ADDITIONAL WORK

	Job I			*Job II*			*Job III*		
	C+	*B*	*A*	*C+*	*B*	*A*	*C+*	*B*	*A*
No. 43	8	6	4	..	3	1	..	..	1
Div. 8-1	19%	14%	9%	..	7%	2%	..	..	2%
No. 46	13	11	7	25	8	19	24	23	16
Div. 8-2	28%	23%	15%	53%	17%	38%	51%	48%	34%
No. 33	17	10	8	17	14	12	29	23	16
Div. 8-3	51%	30%	24%	51%	42%	36%	87%	69%	48%

met with a response from all divisions: 8-1 has 8 6 and 4 attempts respectively on C plus, B and A work; 8-2 made 13, 11 and 7 attempts while 8-3 made 17, 10 and 8 attempts on the same work. In Table II, however, we discover that 8-1 made 6 and 4 unsuccessful or partially successful attempts to do the B and A work; 8-2 had similar results in 5 and 4 attempts at A and B work while 8-3 had 4, 4 and 3 such attempts in C, B and A work respectively.

In the results of the second contract the evidence of ability grouping is more apparent. The two tables show that 8-1 made no attempts at C plus work, 3 attempts with 2 failures at B work, and 1 successful attempt at A work; 8-2 made 25 attempts with 8 failures for C plus work, 8 attempts with 3 failures for B work and 19 attempts with 7 failures at A work; 8-3 made 17 attempts with 6 failures at C plus work, 8 attempts with 1 failure at B work and 12 attempts with 5 failures at A work.

In the third contract the tables show that 8-1 had only one attempt and that for the work for A credit. That does not mean that the child rated an A standing for he omitted the C plus and B work. He would receive C plus if the extra assignments were of equal difficulty. It has proved satisfactory to arrange the extra assignments in an ascending order of difficulty and to require the work to be done in successive order; 8-2 made 24 attempts with 2 failures at C plus work, 23 attempts with one failure at B work and 16 attempts and 9 failures at A work; 8-3 made 29 attempts with 3 failures at C plus work, 23 attempts with 3 failures at B work and 16 attempts with five failures at A work.

Yet after all this had been tried there still remained a considerable number of pupils who were failing in one or more subjects. Among these was found the irreducible minimum which includes those who have apparently reached their mental level and those who have attained their present class rating by virtue of the provision that no pupil should be required to remain in a grade more than two complete years.

The greatest number consisted of those who, through unfortunate experiences in classrooms, had developed an attitude of defeat toward a subject. If there is any place where the much discussed inferiority complex is a reality it is in such a situation.

With classes ranging in number from thirty-three to forty-seven pupils, and with forty-minute periods it was impossible for the teachers to give much individual attention to those retarded pupils. There being no unassigned teacher or classroom available, the principal converted his office into a coaching classroom. Into this class were invited all who were chronic failures in any subject. The results have more than justified the experiment. During the last two months of the school year there were only sixty-five subject failures or only about 30 per cent of the number when the experiment was begun. The standards of the school have been raised and the failures have been reduced to a reasonable percentage.

TABLE II—UNSUCCESSFUL OR ONLY PARTIALLY SUCCESSFUL ATTEMPTS TO DO ADDITIONAL WORK

	Job I			*Job II*			*Job III*		
	C+	*B*	*A*	*C+*	*B*	*A*	*C+*	*B*	*A*
	..	6	4	..	2	..	..	..	..
Div. 8-1	..	14%	9%	..	7%	..	..	..	..
	..	5	4	8	3	7	2	1	9
Div. 8-2	..	11%	9%	17%	7%	15%	4%	2%	..
	4	4	3	6	1	5	3	3	5
Div. 8-3	12%	12%	9%	18%	3%	15%	9%	9%	15%

Editorials

Is the Junior High School Making Good?

SOME time ago an editorial in The NATION'S SCHOOLS called attention to the fact that the junior high school was being established throughout the country with amazing rapidity.

The note stated that there was great exhilaration among educators over the development of this new type of organization for pupils in the higher grades of the elementary school; that the junior high school would make the transit from the elementary school to the senior high school easier than it had been heretofore and that pupils would stay on into the high school in larger proportions than they had been doing. It predicted that in the course of time the junior high school would be a unit in the educational system in every community and that it would integrate elementary and secondary education so that the whole would be a unity from the first grade through the senior year of the high school.

Now come protests to the editor from senior high school principals in different sections of the country. These principals say that we overpraised the junior high school; that it has not been accomplishing as much as has been expected of it. One of the most distinguished secondary school men in the country who has been giving careful attention to the effects of establishing junior high schools in his city and elsewhere has informed us that practically every junior high school he has investigated is doing more harm than good. He says that the junior high school distributes its efforts over so much territory that it weakens instead of strengthens the intellectual abilities of pupils. He declares that the pupils who come to him through the junior high school route have to be provided for in special classes because they do not know how to work effectively and they acquire such habits of mind that they cannot apply themselves with success to any intellectual tasks. "The junior high school is so obsessed by the idea of putting its pupils through a lot of so-called exploratory courses that they do not know how to master anything thoroughly. This 'cafeteria plan' takes such a hold on them that they cannot adapt themselves to a regular educational meal."

Our correspondents, all of them senior high school men, say that the junior high school is not

holding pupils any better than the grammar school did or does. They say that they do not like to recommend a pupil who has passed through a junior high school to go to college because of the mental flabbiness developed during his junior high school period.

The situation depicted by these men is rather depressing or at least disappointing. Have they overdrawn the picture? Are they prejudiced? Are they incapable of judging the work of the junior high school fairly because some of their own territory has been cut off? Are they blinded to merits of the junior high school because the latter has attracted to itself some of the glory that formerly was accorded unstintedly to the senior high school? Or is it true that the junior high school has adopted a type of program that more or less unfits pupils for continued and continuous intellectual work.

If this is the case, what is the remedy? Should pupils who are going on into the high school and ultimately into college be segregated in the junior high school and prevented from following an exploratory program? Should different diplomas be given for different types of work in the junior and in the senior high school? If it be true that exploratory work in a junior high school makes pupils discontented with the more rigid and restricted program of the typical senior high school, should the senior high school provide work for junior high school graduates that will be adapted to their interests and to the mental habits established in them by junior high school work?

If any readers of The NATION'S SCHOOLS feel deeply about these problems or have definite data derived from experiment or observation or experience that will throw light on the problems of junior and senior high school programs now in the making, we shall be glad to open to them the pages of the magazine.

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Extra-Legal Agencies and Their Place in Education

IN THIS issue of The NATION'S SCHOOLS, Professor Moehlman presents an interesting and vigorous argument in favor of the view that legally constituted agencies alone should have a voice in initiating educational policies and carrying them into effect in the schools of any community. We predict that readers generally will endorse Professor Moehlman's view. The NATION'S SCHOOLS stands with him in this matter, although it may be worth while to point out that there are occasions when extra-legal agencies may be of service in inaugurating educational movements.

There is now taking place in an American commonwealth a prolonged conflict between a group of vigorous statesmen who on the one side maintain that no extra-legal agencies should play any rôle whatever in initiating or maintaining any kind of educational work in the schools of any grade in the state, and an equally vigorous group on the other side who hold that the great educational endowments, all of which are extra-legal, can and should be given an opportunity to play a part in testing out new educational propositions that the legal agencies of the state think are comparatively valueless or at least superfluous. In other commonwealths, extra-legal educational endowments have initiated and have shown the value of educational innovations that the legal agencies of the commonwealth would never have inaugurated. Legally established agencies are notoriously conservative. Almost without exception they cling to well established theories and practices in education. They say, "What was good enough for our forefathers is good enough for us"; and, following this policy, education progresses slowly.

In one community in which the board of education refused to establish any summer classes or to provide leadership for the playgrounds of the community during the summer months, several extra-legal agencies began discussing the matter and concluded that it would be of great value to have pupils properly occupied during the long vacation. So they went to work and provided summer classes to which pupils were invited, and they raised funds for the support of playground leadership throughout the entire vacation. This work was maintained by these extra-legal agencies long enough to prove to the board of education and the citizens of the community that summer classes and recreation during the long vacation should be provided at public expense, and now the board of education maintains that this work, which was initiated and sustained by extra-legal agencies, has demonstrated its value beyond question.

Professor Moehlman properly maintains that extra-legal agencies should work through established legal agencies, that is, boards of education or school commissions. It would sometimes facilitate educational progress if boards of education would authorize certain extra-legal agencies to act in their stead and with their sanction in testing out new educational propositions. If boards of education will not do this; if they assume an indifferent or resistant attitude toward parent-teacher associations, service clubs, and the like in respect to their offers of cooperation in extending and perfecting educational opportunities, then it seems that it is legitimate for these extra-legal agencies to go ahead on their own account and show by

actual experiment whether the proposals that they want to have tried have real educational worth. It would be disastrous to adopt a program in any community that would prevent any extra-legal agency interested in education from functioning either through the board of education or outside of it.

Some statistician has recently said that nine out of every ten public school buildings in our country are closed tightly after school hours every day, and continuously throughout all the vacation periods. He has said that an investment in school plants of five billion dollars is nonproductive a good part of every year because boards of education will not permit these plants to be used by the citizens of the various communities. If extra-legal agencies could have a voice in regard to this matter they might make it advisable for boards of education to open up school buildings and all school facilities for the use of the people of the community after school hours and during vacation periods. Boy Scouts, Girl Scouts, Camp Fire Girls and similar extra-legal agencies and organizations can suggest improved methods in some phases of our educational work, and they should be permitted to utilize the school plants in any community after school hours and during vacation periods. Extra-legal agencies are moving faster in regard to these desirable reforms than are school boards in some communities.

Keeping the Rural Child Abreast of the City Child

THE American people are awake to the need of studying child life in rural sections and of providing appropriate educational facilities for rural children, if one may judge by the amount of literature that is daily appearing on rural sociology and rural education. Fortunately, the period of much theorizing about the rural child and of presenting personal opinions regarding his nature and his needs is passing, and the era of investigation is being ushered in.

These reflections are the result of a study of the report of an investigation of farm children by the Iowa Child Welfare Research Station, an example that will doubtless in due time be emulated by the other states. In no other way is it possible to discover the physical, intellectual and educational conditions and status and also the needs of children on the farm.

Two matters of outstanding importance for persons interested in education are treated in the Iowa report. The first is that children in the one-room rural school are inferior to children in the consolidated school, and also in the city school, in educational achievement and in the type of intelligence that is measured by group intelligence tests. There is no escaping the conclusion that children who must attend one-room rural schools are seriously handicapped when other children have superior opportunities for intellectual development and educational advancement. The second matter is that rural children are not at the start inferior to city children in intelligence as it is measured by instruments now available.

The explanation offered by the Iowa investigators is that the city child is trained in methods of expressing what he knows more effectively than is the country child. If this is the case, then Iowa does not have to deal with a problem that is already perplexing some of the states. In a statewide survey of the intellectual and educational achievements of the children of Mississippi, it was found that rural children were inferior to city children from the kindergarten all the way on through as far as country children could be distinguished from urban children. The children in the less prosperous sections of the state were inferior to children in the more fortunate sections, both in intelligence and in educational achievement. It became apparent to the investigators in Mississippi that there was at work a process of segregation and of natural selection whereby the better endowed and more capable portion of the population gathered in the cities and in the prosperous areas of the state where opportunities for the accumulation of wealth and for social intercourse and intellectual development were greater than in the impoverished sections of the state.

Investigations conducted in sections of other states have apparently shown that rural children taken as a whole, are natively inferior to children in the city. There probably has been at work in this country a process of differentiation of rural and urban peoples, resulting in the beginnings of peasant and aristocratic groups. In other countries this has gone so far that there is a distinct cleavage in intelligence and capability between the peasant groups and the urban groups that exploit them.

Iowa is probably more fortunate in that life on the farm has up to this time attracted as highly endowed and as capable persons as have the cities. If this is actually the case, then it should be comparatively easy for Iowa to institute a system of rural education that will keep the child on the farm abreast of the child in the city in every respect, so that in maturity he will be capable of holding his own with his urban rival, intellectually, economically, politically and socially.

Happy to Say—By WILLIAM McANDREW

IN QUINCY, never mind which one, a newspaper printed a protest of a parent against closing the schools as a mark of respect to the president of the board on the day of his funeral.

ONE day, when John Macdonald was guest of the Brooklyn Municipal club, all the trains of the Long Island Railroad were halted ten minutes in honor of its president, William Baldwin, who was being buried.

"NO HONOR at all," said Macdonald, "only a nuisance. Think of the passengers who have engagements to meet or trains to catch. Baldwin would be more honored by running trains on schedule than by stalling 'em."

NOT so long after this all the subway trains were stopped in honor of Macdonald, its builder, because he was being put into his grave.

I MET a crowd of jubilant youngsters coming out of a Chicago school on the day of the obsequies of the president of the board of education. I heard one shout gleefully, "Hooray, the board of education's dead."

FUNNY how custom twists an intent into its opposite. Shutting schools as a sign of sorrow makes a good man's death a joyful holiday.

ALSO it turns his work for schools into a travesty, to say nothing of the waste to taxpayers' money.

YOU had better write into your will, now, before you forget it, "and on the day of my funeral, if it be a school day, I desire my friends to work to beat the band."

REMEMBER what Lloyd George told parliament? "The way to throw contempt on a cause is to stop working."

ONE of the best uses of mathematics is to compute the percentage of anticipated trouble that never happened. Algebra is good for unknown quantities; but cancellation beats all.

HOWARD HILL, Chicago civicist, tells one of the best stories showing what ails America.

"A traveler accosted an old darkey in front of a dilapidated store and asked him, 'Uncle, what community is this?'

" 'Community, sah, I guess I dunno what you all means by 'community'."

" 'A community,' said the traveler, 'is people who live near one another in a friendly spirit and look out for the common welfare.' "

" 'Well, sah,' said Uncle Mose, 'I understands yo. Dis am no community, sah. It am jes a place.' "

A DULL teacher across the street from the Metropolitan Museum of Art can supply children five hours a day with a dreary ant hill life. I knew a man who taught carpentry in a dingy old Chicago schoolhouse so that even the sawdust seemed pure gold.

MY HIGH school principal used to tell us we couldn't enjoy the beauties of Greek and Latin authors unless we studied them in the original; but, without knowing a word of Hebrew, he read the Psalms to us every morning.

GREAT is arithmetic! If you add up the small happiness you produce day by day you get a large "ans."

ONE reason why so many boys and girls will plod through the waste of Latin is because a likable teacher likes it and them. Oh, boy, what a country we should have if these men and women cultivated a taste for pure politics and taught it!

JOHN FINLEY and Henry Fairfield Osborn were at a board meeting at which it was proposed to fire an employee of the museum.

"Is he not assiduous at his work?" inquired John.

"No," said Henry, "he's deciduous."

BEST shots of the month by some good shooters:

"Nothing more tragic than to think you must have some sickness in your life. You don't have to get sick even to die. Sickness is not a necessary road to heaven."—Atlanta Georgia Sutton.

"Produce or vamoose."—University of California Woellner.

"If I keep out of our professional organizations I am grafting on benefits for which somebody else has paid."—Dillon Montana Davis.

"Leadership is making people want what they ought to have."—Boy Scout West.

Schoolhouse Planning:

Location and Use as Factors in Plant Appraisal

By ARTHUR B. MOEHLMAN, Professor of School Administration and Supervision, School of Education, University of Michigan

MECHANICAL, instructional and space efficiency have been considered as major elements in the appraisal of the existing school plant. There remain for consideration location, site, current use and possible future use. These seven factors, including numerous subfactors under each classification, must be brought together and considered in their relative values before the existing plant may be finally appraised as good, fair or poor.

Study of school plant location is based upon the adopted policies of the board of education with respect to spacing. Spacing policies are conditioned directly by the character of the organization of elementary and secondary education, reasonable distances that children of different ages may be expected to travel, the presence of hazards, the minimum size of an economical plant and the maximum size of a plant considered desirable by the community. Spacing policies should be adopted by the board of education far in advance of current plant appraisal.[1]

Land utilization maps may be prepared as part of the industrial and sociologic survey of the community.[2] The development of transportation lines may also be considered and potential hazards determined. The first step in studying location is to make use of these maps. The information contained in them may be transferred to a large scale district map. The result will show the future location of major transportation lines, terminals, industrial areas, commercial areas, parks, cemeteries, recreation centers and housing districts.

Locating the Districts

Using the adopted spacing policy of the board of education as a standard, the future school districts may be located. If the organization policy follows the 7-6 plan, two maps must be prepared, one for elementary and one for secondary schools. If the adopted policy includes the junior high school, or 7-3-3 plan, then three maps will be needed. The future school districts will be laid out as closely as possible with respect to the spacing indicated in the policy. In any community these will not be completely regular in the older and well built-up sections. As the survey approaches the outskirts of the community it will be much more possible to achieve regularity of size and form.

Aerial Map Is of Value

After the future districts have been carefully laid out on the map, it is desirable to visit every proposed district and study the actual field conditions again as a possible check against peculiarities that the typical map does not show. If funds permit, a good aerial map of the community should be made. This will more than save its initial cost in time saved and in the oversurvey impossible to a man on the ground. As soon as the future districts have been platted and fixed, it is possible to appraise successively the existing plant with respect to general location. The locations rated good will be retained in the ultimate plant, other factors being equal. Those rated fair will be allowed to work out their probable economic life and those marked poor will be classified for immediate replacement or elimination.

It is not necessary at this point to locate new centers. The work should be confined to an appraisal of the existing centers. One word of caution is necessary. In appraising existing centers that are generally in good condition but slightly off the geographic center of the district, careful study of the possibilities of retention should be made in spite of this apparent handicap.

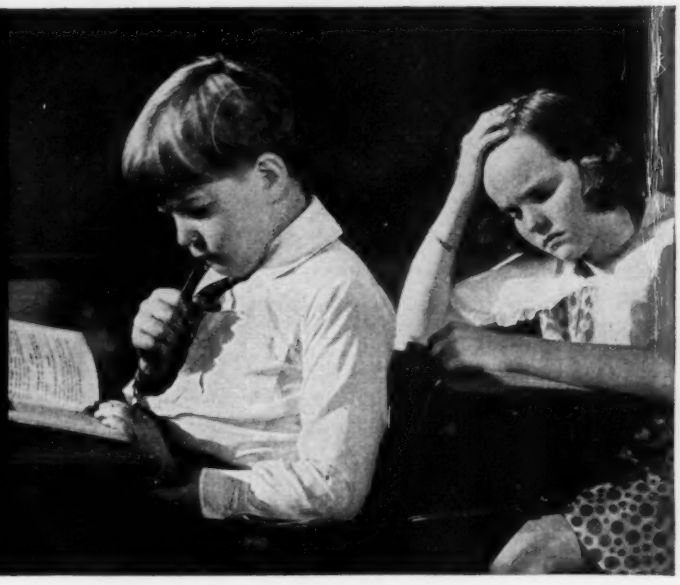
Ten factors deserve consideration in the appraisal of existing sites. These are location, size, expansibility, hazards, disturbances, drawing power, form, building area, playground area and landscaping. The size of the site depends upon the adopted policies of the board of education. In general, elementary school sites should range from five to ten acres; junior high school sites from ten to

[1] THE NATION'S SCHOOLS, December, 1930, pp. 68-71.
[2] THE NATION'S SCHOOLS, September, 1930, pp. 37-41.

WHAT GOES ON HERE . .

has a lot to do with

WHAT HAPPENS HERE . . . .



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Sealex Linoleum Floors abolish dust and noise at one stroke. In the dense, hermetically sealed cork-composition there is no place for dust or germs to hide. As for noise, the natural resilience of cork, an important ingredient of Sealex floorings, makes even a heedless boy walk softly.

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fifteen acres, and senior high school sites from fifteen to twenty acres. These are flexible limits and must be considered in relation to certain other factors. In well built-up areas in the more populous centers it may be necessary to retain a site that is inadequate in size. The needs of the children and the character and cost of the surrounding area may require that this school be continued without enlargement. It is not possible to achieve the ideal in every situation. When a site is smaller than the minimum size outlined, it must be carefully appraised with respect to possibilities of expansibility. If economic or other reasons prevent enlargement, it is still possible to consider using the roof for additional play space.

The presence of hazards must be carefully considered. Railroads, surface car lines and arterial highways form the major traffic hazards in site appraisal. If other factors are favorable and the general requirements indicate the desirability of the site as located, it is possible to overcome the traffic hazards by tunneling or by protective lights and traffic officers.

From the educational standpoint these hazards, now possible to control, constitute largely a noise element that disturbs the school program. Railroads, factories, engine proving grounds and stockyards are other forms of disturbances. It is difficult to control the noise element. In modern buildings acoustical treatment will be helpful, but in older structures it is always questionable whether such treatment is worth the expense. In general, if the noise elements are great, the site should be appraised negatively. If conditions indicate a necessity for retention in spite of these conditions then some means of controlling the disturbance mechanically may be studied.

Evaluating Sites

Drawing power is extremely important in site appraisal. Each school building that is ideally located should possess drawing power from all four segments of the district boundaries. The near presence of nonproductive areas such as cemeteries, parks, industrial or commercial units disturbs the balance and makes the location inadequate. In general all sites whose drawing power is poor and which would require the dislocation of other districts to fill the building should not be classified higher than fair. If other conditions warrant, they may be grouped as poor. Their fate is either immediate or gradual elimination. There is one exception. In certain communities little residence pockets are sometimes created in the midst of industrial areas or between intersecting railroad tracks. These pockets are well isolated from the rest of the district. They may be more or less permanent. As long as they exist some means must be found to serve the children.

Building, playground and landscape areas may be considered together. The first task in this appraisal is the mechanical measurement of the total site and the determination of the actual space occupancy of building, playground and landscaping. The building envelope determines the physical area that is essential. Open plans require more space than closed plans. The lower the building in height, capacity being constant, the greater the ground area required. Playground area should be determined in terms of the working capacity of the building. The outcome of this appraisal will be the requirements for the enlargement of existing sites for recreation and for landscape development.

Other Factors Influencing Appraisal

Certain other factors may enter into the site appraisal, but they are not major determinants. These include typography, character of the terrain and drainage. In the selection of new sites, they may be considered, but even under these circumstances, if the site is properly located, adequate in size and free from hazards and noise, soil and drainage conditions may be easily overcome. Basic soil conditions, such as the presence of quicksand, cannot be determined except through extensive drilling. There are inexpensive mechanical means for even overcoming the disutility of quicksand. In other words, the factors of location, size and safety are in my opinion far more important in site selection than typography, soil and drainage.

Buildings are either elementary, special, junior or senior high schools or a variation of these basic types. The actual use of a given group of facilities depends upon a knowledge of the working capacity of a unit and the number of children served daily. Each building has two major capacities, the absolute and the working capacity. Absolute capacity may be considered as the total number of children who might make use of the instructional facilities at any given time, and is determined solely in terms of floor space or cubic air content, regardless of curricular requirements. Absolute capacity is considered as a base or 100 per cent, by means of which is determined the relative effectiveness of actual or possible use. Absolute capacity is fixed and may change only as a building is enlarged, contracted or remodeled in such a way that the usable floor area is changed.

The working or standard capacity is the total number of children who may use the instructional facilities of a building at any given time in accordance with curricular requirements and the educational policy concerning organization and size of class. There may be a considerable difference be-

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tween absolute and working capacity in a building at any given time. While absolute capacity is a constant that varies only with increases or decreases in the shell and cube of a structure, working capacity will change directly with curricular needs, size of class and method of administration. Working capacity changes directly with educational policies. One example may suffice to indicate these differences.

A twelve-room building erected in 1880 had classrooms measuring 34 by 26 feet, or an absolute capacity of 696. Since the policy at the time of construction was to have classes of fifty, the working capacity was only 600, or 86 per cent of the total. In 1900 the instructional policy was changed to a forty-five class size. The working capacity now became 540 and the relative efficiency was 77 per cent. In 1915 the class size was reduced to forty and the efficiency ratio became 68 per cent, in accordance with the following table:

Year	*Class Size*	*Absolute Capacity*	*Working Capacity*	*Efficiency Ratio*
1880	50	696	600	.86
1900	45	696	540	.77
1915	40	696	480	.68

After 1915 the curricular needs became so varied and the existing building so inflexible that it was eliminated from the ultimate plant. The same amount of physical space was available in 1915 as in 1880, but the changed instructional policies made it nonusable. While the absolute capacity remained stationary throughout, the working capacity decreased with each change in policy so that it finally stood at only 68 per cent. The nonusable capacity was practically waste space, but, as shown in an earlier article, it was heated, cleaned and kept in repair.

The working capacity must be determined for each building by translating the curricular requirements, instructional policies and administrative procedures into space and room requirements and then measuring the building. Once these computations have been made, they are available for use until some radical instructional change requires further study.

Working capacity gives the possible use of the present plant under existing policies. As soon as these data have been developed, it is possible to determine actual use. The simplest method of determining this is to learn the actual enrollment for any given period and tabulate the results with respect to working capacity. This is possible only if the internal child accounting records have been accurately kept. A second method much more effective than the first and also more expensive is to tabulate the attendance by rooms, periods and days for a given week or month and develop the results in black and white charts of room use. A secondary study to determine both use and curricular fit can be made by tabulating the capacities by curricular divisions and then matching the curricular choices against these facilities. Load may also be organized by periods to indicate the degree of balance in program spread. After these operations have been completed the executive should have available the relative efficiency of each building under current educational policies and the relationship between working capacity and daily use.

The Final Appraisal

Since all of the factors in current plant appraisal have been considered and the current plant survey drawn to a close, the executive now has in his possession a series of appraisals of the existing plant including its physical character, the effectiveness of spacing, the existing locations in terms of future developments, an analysis of the site and the current efficiency of use. These appraisals must be brought together for each plant and the final judgment passed with respect to retention or elimination, either immediately or progressively.

The final appraisal of each plant may require days or even weeks to complete. All available maps and specialized information regarding general conditions, together with this series of appraisals, should be considered by the executive and his survey staff. The best results are secured when each plant is required, figuratively, to take the stand in its own behalf and protect itself against elimination. Data upon expense of replacement, character of structure and possible future demands are vital at this point. If the architect has already been appointed, it is desirable to have him attend these conferences or at least to give his professional opinion of the mechanical and physical condition of each building.

Out of this final study will emerge the units that will fit into the future plant without change. These will have been rated good. The second group will include those buildings that may be used in the future with changes in the size of site, changes in use or changes in size and remodeling. These will be rated good minus. The third group will include those units to be eliminated progressively in accordance with financial possibilities. These will be rated fair. The fourth and last group, the poor classification, will include those units that must be abandoned as soon as it is financially possible.

The appraisal of the existing school plant has given us the units that should be immediately and gradually eliminated. It has also left the nucleus around which the future plant will be developed. The determination of the ultimate plant will be discussed in the next four articles.

Practical School Administration:

Saving Money in the Supply Budget

By PHILIP C. LOVEJOY, Formerly Assistant Superintendent of Schools, Hamtramck, Mich.

IF A school district wishes to save money in its supply budget it must first know the quality and quantity of supplies it needs.

Superficially such a statement seems trite. Most school executives do know in a general way what supplies are required. They assume that if several thousand units of an article were purchased during the current year a slight increase or decrease may be made in the new purchase order according to the present state of the inventory and the anticipated school membership. Such a procedure is rarely accurate. If money is to be saved, if expenditures are to be made wisely and economies are to be effected, it is important that scientific techniques be utilized constantly.

It may be well at the outset to consider the issuance of free supplies by the school district. The money to pay school costs comes from the taxpayers. If supplies are not furnished by the board of education, individual parents must purchase supplies directly. Several difficulties arise immediately. There is no assurance of standardization of supply. There is no likelihood that each child will always have the necessary supply on hand when it is needed. The time of teachers and pupils is therefore frequently wasted. The cost of supplies when purchased by parents in small quantities is considerably greater than it would be if purchases were made in quantities by districts.

Thus money may be actually saved to the taxpayer when the board of education levies a slightly larger tax with which it purchases supplies directly. Education in America has proceeded on the theory that it is to be free to all who will avail themselves of the opportunity. Granting free supplies and textbooks is simply a step in accord with this policy.

Who Shall Buy?

In a modern functionally organized educational system, therefore, some department must be charged with the determination of the quality and type of supplies required. In all probability the department of instruction can best be responsible for this task. Furthermore, since supplies are a means to an end, it appears that the department of instruction is the only place where the quantity distribution on a per pupil basis can be determined.

If the department of instruction is to be charged with this important duty, it must have a division devoted to educational research. Possibly it may well be the department of creative instruction. This research division is charged with the development of courses of study that will be in accord with the policies of the board of education. These courses will differ considerably from those to which many of us have been accustomed.

Determining Quantities

If a product is to be achieved economically and yet be socially competent it will be necessary to develop each course of study in at least three distinct parts. There must be a general statement of the larger aims and purposes of the course to which must be appended the three parts. The first will state the products and by-products. The second will specify the means of procedure necessary to assist in the achievement of the products. These means of procedure will be subdivided to indicate teachers' methods, materials, equipment and processes. Third, there will be a definite statement concerning the means of appraising the work accomplished. There is thus expressed a trinity of ideas, all essential to the primary purpose of the public schools.

Few such courses of study have been developed. The Hamtramck Public Schools, Hamtramck, Mich., under the direction of Dr. Stuart A. Courtis, have been experimenting in this direction.

This course of study sets forth the aims of the Hamtramck Public Schools, which are stated concretely in accordance with the policy of the board of education. From such a foundation the department of creative instruction can begin to build. The pupil is the unit upon which the course of study is acting. Hence, material requirements are in terms of the individual pupil. The particular columns on material and on equipment are supple-

mented by a standard of distribution booklet in which complete details of quality are set forth. Here the item is named. If there is a special kind, it is stated. A manufacturer's brand and number are indicated when they are known. The type of material, the quality, the size number, the exact color and the shape as well as the length, width and thickness are stated with accuracy.

The finance (business or purchasing) department receives these standards of distribution from the department of creative instruction. Meanwhile the department of records (child accounting) has been compiling current figures on enrollments, attendance, census, the relationship between membership and census, and the membership mortality by grades. In addition it has prophesied the probable enrollment figures per course for the ensuing year. It is possible, then, to expand the requirements in the standards of distribution into quantities to be purchased. A significant phase of this work is that the department of creative instruction endeavors to standardize the supplies between courses as much as possible. Take the matter of ruled paper. It is entirely possible that what will be adequate for English may also be satisfactory for social science and likewise for certain work in exact science. The implication is that all the agents in both departments cooperate to the fullest extent.

The business department of course must tabulate the requirements of the various courses of study. The result will be complete lists by type of supplies.

Accurate Inventories Are Necessary

The first method of actually saving the taxpayers' money is to have the school district furnish all supplies free of charge. Several reasons for this have already been stated.

Shall there be a single central stock room with small building storage rooms or shall the supplies be shipped directly by the vendor to the individual schools? This problem is not easily solved because the charge for labor enters in either case. Shall the labor be paid for at the shipping end or at the receiving point? How large is the system? Are there other duties that could be performed when the stock and receiving clerk is not actually engaged in this work? How often are supplies received? How often are they distributed? Each administrator should give these matters some thought.

Money can be saved by having accurate inventories to prevent overbuying and to eliminate underbuying. Either is expensive. It costs money to obtain bids, to issue purchase orders and to receive and distribute goods. Therefore, it is consistent that fairly large quantities of supplies should be purchased at one time. On the other hand, if too many are purchased at one time, a sizable amount of the funds of the district will be tied up and interest money lost. There is also more likelihood of waste if too many supplies are on hand. Someone is sure to learn that such and such an article is in the stock room and will therefore requisition it. It is difficult to get teachers to understand that the stock room is a reservoir of material that is really dormant cash and that, so far as educational cost accounting is concerned, the expense does not occur until the article is withdrawn from the stock room.

The Economy of Standardized Supplies

As a corollary to the foregoing is the statement that every school system must have careful budgetary control if money is to be saved. Accurate records must be maintained to show what has been requisitioned, and when, by whom and for what the purpose it was requisitioned. Rate of use must be ascertained and standards of distribution must be checked constantly.

Reference has already been made to the manner of ascertaining by scientific means what is to be needed. It is careful steering that prevents collision or accident. If the educator will plan carefully he is in reality steering the educational ship in such a way as to avoid the rocks of financial distress.

A reference has already been made to the standardization of supplies. A recent copyrighted pamphlet issued by the Michigan Education Association reminds administrators that they should not overlook this point. If in purchasing bond paper it is possible to obtain a case or a ton rate, manifestly the price is going to be lower. Furthermore, it is going to be less expensive for the school system to store one kind of paper rather than several. It will require fewer records whether of purchase, inventory or delivery. Errors will be reduced.

Further economy results from the definite knowledge on the part of the teachers as to how the supply is to be used and the proposed distribution per child to accomplish the results desired by the department of creative instruction. Research in the use of supplies has resulted in cash savings. Likewise the strain on the teacher and child has been reduced. Hence, what is purchased will serve the indicated purpose under this technique, and waste will be reduced to a minimum.

The department of creative instruction can always be conducting experiments to determine substitutes, especially so since the course of study is constantly changing. I know a commercial

He Chases Grim Shadows From Thirsty Lips with This New Fountain

In this fountain, the Clow Soldier of Sanitation has created an artificial, refreshing spring that is as safe and fool-proof as human ingenuity can make it. Every drinker is carefully guarded from possible contamination of lips that drank before.

The Clow Soldier of Sanitation is working for you in the Clow Plant as well as in the field. New designs, refinements, careful testing are his contributions. In the picture you see Joe Wade, East Grand Rapids, Mich.—Central Michigan Territory.

The owner is protected against the mischievousness and irresponsibility which every public plumbing feature must meet.

The angle stream has its source beneath a protecting hood under which lips cannot get. That source is well above the top level of the waste bowl. Should the waste become clogged, willfully or accidentally, the waste water can never reach the drinking stream spout, to carry contamination to a drinker's lips.

The stream cannot be squirted by mischievous children. Place a finger over the opening, and the water merely runs down into the bowl and into the waste, because of exclusive Clow double opening design.

Thus the Clow Soldier of Sanitation gives you a new drinking fountain, which more than meets every health specification or recommendation.

What he has done here is typical of his work to defeat high costs and the grim ghosts of insanitation.

The fountain pictured is available in either pedestal or wall-hung types.

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organization that has been using a large quantity of twenty-pound bond stock paper for mimeographing. Investigation revealed that better results could be obtained with a sixteen-pound mimeograph bond stock. In addition to the savings on the paper itself, the cost of postage was reduced on nearly 80,000 letters in the course of a year. This organization is now experimenting to obtain lighter weights in all its paper to reduce the postage bill, especially in its air mail correspondence to distant points.

Such a procedure in schools is the responsibility of the department of creative instruction. Substitutes must not be used merely to save money at the moment. That would be an expensive process. Before the substitution is ordered the department must be convinced that the results will be as good or better than they now are but at a reduced cost. A concrete example will illustrate the point. One school district was annually purchasing 1,000 gallons of a specific brand of filter oil. The price paid ranged between seventy-five cents and $1.25 a gallon. Experiments were made with various substitutes. Special tests were conducted and it was discovered that an excellent oil could be obtained at twenty-three to twenty-five cents a gallon. Thus a minimum of $500 a year was saved by this single substitution.

Duties of the Purchasing Agent

Attention should be given to the use of specifications as the basis of all purchases. One word of caution should be included. Many organizations and school districts go to great lengths in developing specifications or else they utilize those of the United States Government. They carefully write these specifications in their bid sheets and they prepare their purchase orders meticulously, only to waste much money through the improper inspection and reception of the goods. If the stock clerk cannot check the items against the specifications and know that the goods received are as ordered, all the work preceding has been costly, not to say wasteful.

This raises the question of bids. Practically all first-class systems submit bids to reputable vendors. Many purchasing agents demand at least three bids before making a recommendation to the board for approval. If the purchasing agent knows his business and is absolutely honest, vendors prefer this method of doing business. Buying on bids under the conditions mentioned is an excellent means of achieving economy.

Naturally the purchasing agent will attend to standard package sizes. This is especially true in chemicals. This problem arises in systems where there are several different laboratories, in each of which there must be a supply of the same chemical. The class size may vary and this complicates the problem. In the Hamtramck system a four column check sheet is used to tabulate chemical requests so that the least work will result in the stock room and the best prices be obtained on the quantity needed.

Without doubt the alert purchasing agent will familiarize himself with changes in commodity prices and will not procrastinate. Furthermore, he must so understand the market that he will be able to buy in the right quantity according to the market possibilities. Much material may be bought when commodity prices are low but there is a storage charge involved as well as the use of space and handling to say nothing of the loss of interest on the money so tied up.

Paying bills within the discount period is just good business. Two per cent, ten days, is equal to 36 per cent interest on money over a year's period and such savings can hardly be overlooked. School tax money is usually received in fairly large amounts, and by careful planning purchases may be timed to take advantage of these discounts.

If a concern sells 2 per cent, ten days, from the date of billing and will not vary these terms even for a board of education, then the purchase must be so timed that the school district will surely be able to pay within the ten-day period. This is especially the case in districts in which the board of education signs checks only monthly or bimonthly. It is possible that three or four days between the date of issuing the order and the time of paying may be worth several hundred dollars. I once purchased several machines, the total bill for which was in the neighborhood of $5,000. The 2 per cent meant $100 and there was a ten-day dead line. The company would not deviate in its terms even for the board of education and hence the purchase order had to be placed so that the billing and payment would fall within the ten-day period.

Higher Requirements for Athletic Coaches in Ohio

The Ohio State Department of Education has passed a ruling that will require those persons who aspire to be athletic coaches to be teachers of health and physical education as well. Before they may be certified for a teaching job they must have a minor of twelve semester hours in health and physical education for part-time work, and a major of forty hours for full-time. The ruling does not affect those who now hold certificates, but it is expected to be in full force by 1935.

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Define "light protection" in one word

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Power failure may seldom happen. But *once* may prove too often. A distant fire or electric storm can bring down power lines, put out lights in your school. The power company can't be blamed. It does everything possible to prevent current failure, but it can't foresee such things any more than you. Guard against sudden current failure, install an Exide Emergency Lighting Battery System. It is instant and automatic, and requires but a moderate investment.

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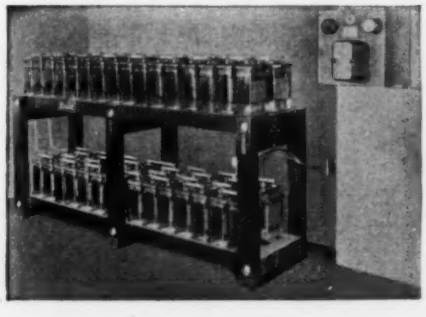

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*Your Everyday Problems:**

The Failures of Recent School Bond Issues Analyzed

By JOHN GUY FOWLKES, Professor of Education, University of Wisconsin

THE period 1920-25 marked an era of school building construction in the United States unequaled up to that time. The inadequacy of existing school buildings in light of a modern curriculum was generally recognized. This, together with retarded building programs, was a major factor in stimulating school building construction. Despite the great amount of school building that took place at that time, however, many communities are still sadly in need of modern school structures.

It is generally known that the period of 1928-30 has been one of retardation rather than expansion as far as schoolhouse construction is concerned. Inasmuch as most school buildings are financed by means of bonding, the extent to which school building programs are being retarded may be determined in part by an analysis of the failure of school bond issues during the period 1928-30.

To obtain valid data concerning the failure of school bond issues during the period 1928-30, a questionnaire was submitted to the 522 city superintendents in Ohio, Indiana, Illinois, Wisconsin and Minnesota. The same questionnaire was presented to the eighty-eight county superintendents in Ohio. Returns were received from 412 of the 522 cities and from 53 of the 88 counties, a sampling that is sufficiently wide to indicate, with a reasonable degree of accuracy, general school bond trends in the respective states.[1]

With an expanding curriculum and a new type of organization, as well as a rapidly increasing attendance, lack of public support means a serious handicap to the school administrator in the promotion of a modern school program. Thus, the frequency of school bond issue failures becomes a study vital to the professionally interested administrator.

Of the 412 city superintendents responding to the questionnaire, 248 reported that no school

*Discussions in this department deal with problems that frequently confront principals and superintendents. Inquiries on problems of this nature should be addressed to Doctor Fowlkes.

[1]Inez V. Summers, graduate student at the University of Wisconsin, supplied the statistical part of this discussion.

TABLE II—SCHOOL BOND ISSUE PROPOSALS AND DEFEATS IN THIRTY-SEVEN CITIES AND FORTY-SEVEN COUNTIES OF OHIO*

	Number Proposed	*Number Defeated Once*	*Per Cent Defeated Once*	*Number Defeated Twice*	*Per Cent Defeated Twice*	*Amount Proposed*	*Amount Defeated*	*Per Cent of Amount Defeated*
1928								
City	22	1	4.5	..	..	$16,968,000	$ 185,000	1.1
County	59	15	25.4	4	6.7	4,776,100	1,399,000	29.2
1929								
City	10	2	20.0	..	..	3,985,000	1,065,000	26.7
County	73	24	32.8	5	6.8	4,966,875	1,587,375	31.9
1930								
City	7	3	42.8	..	..	1,425,000	985,000	69.1
County	65	27	41.5	6	9.2	5,009,975	2,814,675	56.1
Total								
City	39	6	15.3	..	..	22,378,000	2,235,000	9.9
County	197	66	33.5	15	7.6	14,752,950	5,801,050	39.3

*34 cities and 6 counties report no school bonds issued during this period.

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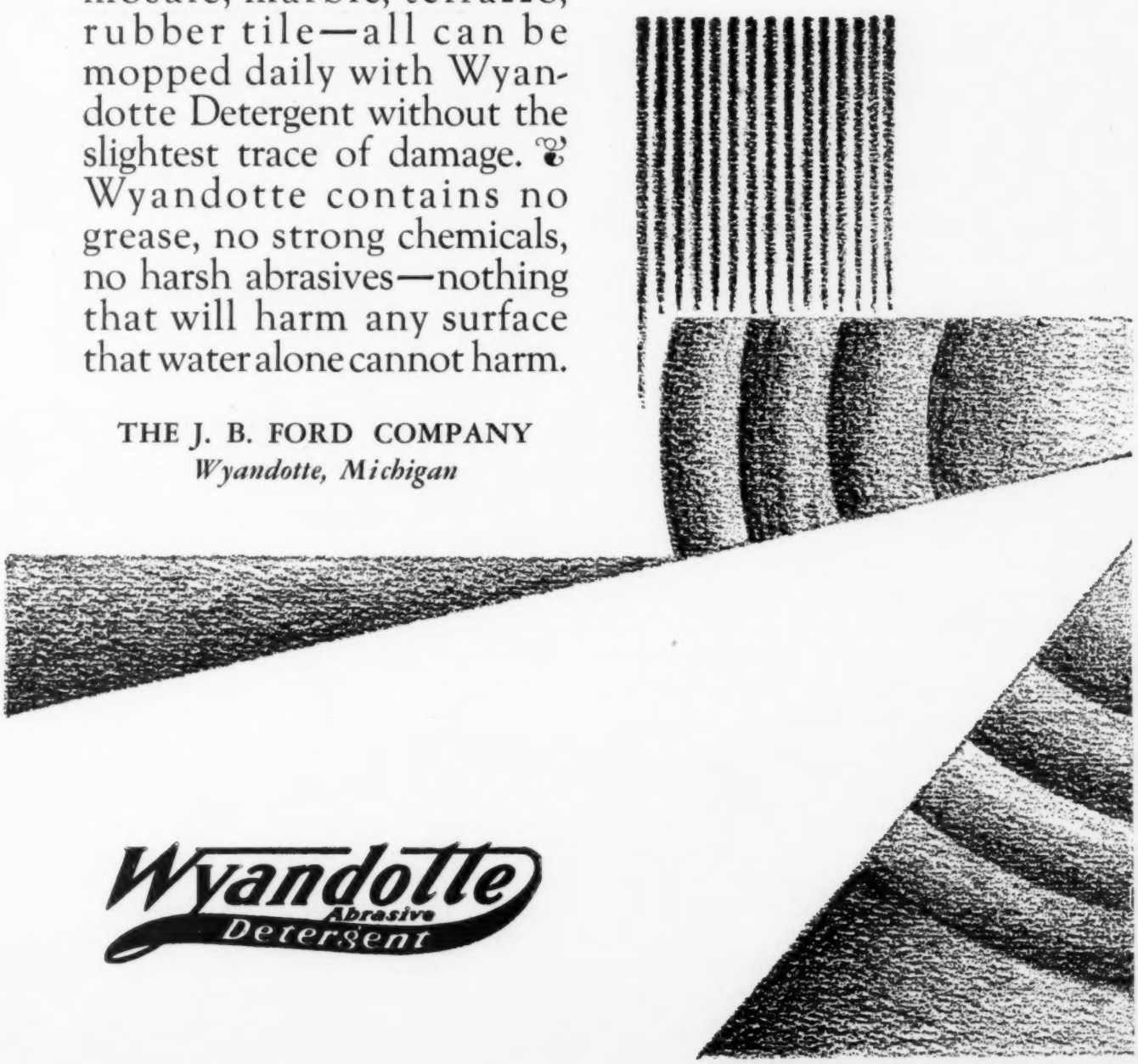
THE J. B. FORD COMPANY
Wyandotte, Michigan



Wyandotte Abrasive Detergent

TABLE I—SCHOOL BOND ISSUE PROPOSALS AND DEFEATS IN 164 CITY SCHOOL DISTRICTS OF FIVE STATES*

	Number Proposed	*Number Defeated Once*	*Per Cent Defeated*	*Number Defeated Twice*	*Amount Proposed*	*Amount Defeated*	*Per Cent of Amount Defeated*
1928							
Ohio	22	1	4.5	..	$16,968,000	$ 185,000	1.1
Illinois	48	2	4.1	..	7,252,500	157,000	2.1
Indiana	30	3	10.0	..	3,753,000	315,000	8.3
Minnesota	11	2	18.1	..	1,755,000	170,000	9.6
Wisconsin	17	4	23.5	1	4,908,000	820,000	16.7
Total	128	12	9.3	1	34,636,500	1,647,000	4.7
1929							
Ohio	10	2	20.0	..	3,985,000	1,065,000	26.7
Illinois	15	2	13.3	1	1,927,000	675,000	35.0
Indiana	13	1	7.6	..	2,460,500	1,215,000	49.3
Minnesota	6	1	16.6	..	477,000	50,000	10.4
Wisconsin	13	1	7.6	..	3,184,000	105,000	3.2
Total	57	7	12.2	1	12,033,500	3,110,000	25.8
1930							
Ohio	7	3	42.8	..	1,425,000	985,000	69.1
Illinois	16	4	25.0	1	2,626,000	1,110,000	42.2
Indiana	15	0	.....	..	2,406,000	.....	....
Minnesota	2	0	....	..	220,000	.....	....
Wisconsin	14	1	7.1	..	3,328,500	300,000	9.0
Total	54	8	14.8	1	10,005,500	2,395,000	23.9
Total							
Ohio	39	6	15.3	..	22,378,000	2,235,000	9.9
Illinois	79	8	10.1	2	11,805,500	1,942,000	16.4
Indiana	58	4	6.8	..	8,619,500	1,530,000	17.7
Minnesota	19	3	15.7	..	2,452,000	220,000	8.9
Wisconsin	44	6	13.6	1	11,420,500	1,225,000	10.7
Total	239	27	11.2	3	$56,675,500	$7,152,000	12.6

*248 districts report no school bonds issued during this period.

bond issues were proposed during the three-year period, 1928-30. In 164 cities, 239 bond issues calling for a total amount of $56,675,500 were proposed during 1928-30. Of this number, 27, or 11.2 per cent, with a value of $7,152,000 failed to carry. Three of these defeated issues had been presented at a previous election.

Failures of Issues in Ohio and Illinois

As will be seen from Table I, Ohio and Illinois rank first and second, respectively, in the percentage of school bond failures each year, both showing a heavy increase each successive year in both number and amount of issues failing to carry. Ohio, with a range of 38.3 per cent in number defeated, presents a precarious situation at the close of 1930, when nearly one-half of the proposed issues failed. During the same year, 69.1 per cent of the proposed amount submitted in Ohio was not approved.

Although Indiana and Minnesota in 1930 proposed only fifteen and two issues, respectively, all were approved. It will be noted, however, that Minnesota presented fewest during the three-year period with a total of nineteen, but during the same interval had the highest percentage (15.7) defeated. Indiana, on the other hand, proposing 58 issues, had the lowest number (6.8 per cent) failing, but the largest percentage (1.77) in amount defeated. A $1,215,000 bond issue not endorsed in Indianapolis during 1929 was responsible for this latter situation.

Over the three-year period, Illinois was highest with 79 as the total number of issues proposed. Ohio ranked first in the total amount presented, calling for $22,378,000 in 39 issues.

Wisconsin shows a considerable drop during 1929 in percentage of both number and amount of bond issues defeated. At the close of 1930, this state rose to third place in both respects.

Table II presents the facts for Ohio cities and counties. Careful study of this table reveals a situation not commonly realized. Of the 53 county superintendents responding, 6 report no school bond issues attempted during the three-year period, 1928-30. Forty-seven list a total of 197 issues proposed and 66, or 33.5 per cent, failing to carry. Of these defeated measures, 22.7 per cent had been voted down at a previous election. The value of proposed county issues totaled $14,752,-950, 39.3 per cent of which were not approved.

The Yearly Increase of Defeats in Ohio

It may be noted that the percentage of both number and amount of defeated issues in county and city districts increased yearly in Ohio. City proposals defeated rose from 4.5 to 42.8 per cent, a range of 38.3 per cent during the three-year period. County failures show a range of only 16.1 per cent, going from 25.4 to 41.5 per cent. A wider range existed between the percentages of amounts defeated. With only 1.1 per cent of the total value lost in 1928, city school losses rose to 69.1 per cent in 1930, a range of 68 per cent. County systems with a range of 26.9 per cent rose from 29.2 to 56.1 per cent.

County Versus *City Trends*

Conclusive figures indicative of county *versus* city trends are to be found in the summary of this three-year period. In Ohio schools, according to Table II, more than one-third of all bond issues submitted in county systems were not approved by the electorate. During this same period, less than one-sixth failed in city districts. The serious situation of county school systems is further emphasized by the fact that nearly two-fifths of the total amount proposed were defeated, while less than one-tenth of proposed city issues were lost. That city districts report no issue defeated a second time is significant in view of the fact that 22.7 per cent of county failures were proposals submitted a second time.

Similar studies of school bond failures throughout the country would probably reveal conditions similar to the ones presented here. Such being the case, the question arises as to whether the large number of school bond failures is largely the result of the general economic depression or if some other major factors are operating.

In the July number of The NATION'S SCHOOLS an analysis of the causes of school bond failures will be presented.

$7,500,000 Fund for "Progressive" Schools in the South

A unique bequest to education is that made by Harvey G. Woodward, capitalist of Birmingham, Ala., to establish a chain of "progressive" secondary schools in Alabama and other Southern states. Mr. Woodward left approximately $7,500,000 to establish the Alabama Educational Foundation. The terms of the will are described in a recent issue of the *School Review*.

The schools are to be for boys of the Caucasian race only. Those admitted must be over twelve and under eighteen years of age. The order of preference in admission is to be (1) those of British ancestry, (2) those best fitted and (3) those born in Alabama. Before he is admitted a boy must show that he is "normal in anatomy and physiology; of sound mind; willing to do hard work through long hours of study; apparently fitted by temper and temperament to be a suitable companion for the faculty of the school and the other pupils and that he most likely will practice the virtues and attain the station in life contemplated in the establishment of the trust."

Schools Limited to 200 Pupils

No unit of the school is to be nearer than fifteen miles to a town of 15,000 population.

"No minister or preacher, one who makes a practice of conducting religious meetings or devotes a substantial part of his time to religious or church work, shall be eligible to serve as a member of the board of governors," according to the will.

The schools are to be limited to 200 pupils, and they are to consist of twenty teachers.

The will continues: "The tuition should be $200 a school year and certainly not less than $100 a school year."

The purpose of the schools will be to educate the average boy for the specific but broad purpose of making of him a better rounded man than usually results from so-called specific education—one who knows, appreciates and can apply the methods of learning.

Each school will have a headmaster of not under thirty-five or over fifty years of age, who understands boy psychology, who is not wedded to any system, who sees and approves of the scheme as a whole and who has a minimum of prejudices, intolerance and cocksureness. All teachers will be men of not less than thirty years of age and with the same general qualifications as the headmaster. They will be well paid.

Formal examinations, percentage marks, graduation exercises, interscholastic athletic events and fraternities and secret societies are proscribed.

News of the Month

W. N. Decker Heads Public School Business Officials

W. N. Decker, secretary, board of education, Altoona, Pa., was elected president of the National Association of Public School Business Officials at its annual meeting in Richmond, Va., May 18 to 22.

Other officers are: first vice-president, Joseph Miller, Jr., secretary, board of education, New York City; secretary vice-president, W. E. Record, business manager, board of education, Los Angeles; third vice-president, James J. Ball, business manager, board of education, Denver, Colo. The retiring president, Charles L. Barr, assistant supply commissioner, St. Louis, will serve on the executive board for another year.

The association created a new committee for research into the "pay as you go" plan for constructing new school buildings.

The round table sessions were popular, with overflow attendances. The delegates were unanimous in declaring that this year's convention was the most successful and constructive that the association has yet held.

The convention city for next year's meeting has not been chosen.

Conference Is Held on Rural School Supervision

A conference on rural school supervision was held in cooperation with Western State Teachers College, at Kalamazoo, Mich., June 12 and 13. The conference was called by William John Cooper, commissioner of education.

Education officials of Iowa, Illinois, Indiana, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin attended the conference, the second of its kind sponsored by the Office of Education for the Midwestern states.

In addition to Commissioner Cooper and a number of education officials from Michigan, conference speakers included R. C. Williams, state director of research, Iowa; Homer Hill, State Teachers College, Illinois; Mary G. Waite, University of Cincinnati; Agnes Samuelson, state superintendent of public instruction, Iowa; Edith P. Parker, University of Chicago; D. E. Walker, county superintendent, Indiana; Fannie W. Dunn, Columbia University; Cassie Burk, director, rural school supervision, Missouri State Department of Education; Delia Kibbe, state department of public instruction, Wisconsin.

State and county superintendents of schools, superintendents and principals of consolidated and other rural schools, and state teacher college representatives were in attendance. Each of the five scheduled sessions was devoted to a consideration of important aspects of rural school supervision in the Midwestern states. Statewide conferences of county supervisory officials, supervision in relation to consolidation, educational opportunities offered children during their first two years and other subjects were discussed.

Eighteen States Plan Programs for Child Health

Eighteen states have set up child health conference committees to carry out the recommendations of the White House Conference on Child Health and Protection, it has been announced at the Department of the Interior.

Many counties and cities are in process of organization and it is believed that in a short time the entire nation will have set in motion a vigorous campaign that will correct the defects of the children and promote their welfare.

Each governor acts as chairman of the state conference, and in most cases his executive committee, around which a larger planning committee is built, includes the state commissioners of health, education and welfare—the three state departments on which rests the responsibility of bringing to children the realities embodied in the Children's Charter.

The staff of the White House central conference office in Washington is available for consultation and help in building state programs. It is preparing special programs to meet the needs of teachers, schools, social and civic groups, and agencies engaged in health and welfare work.

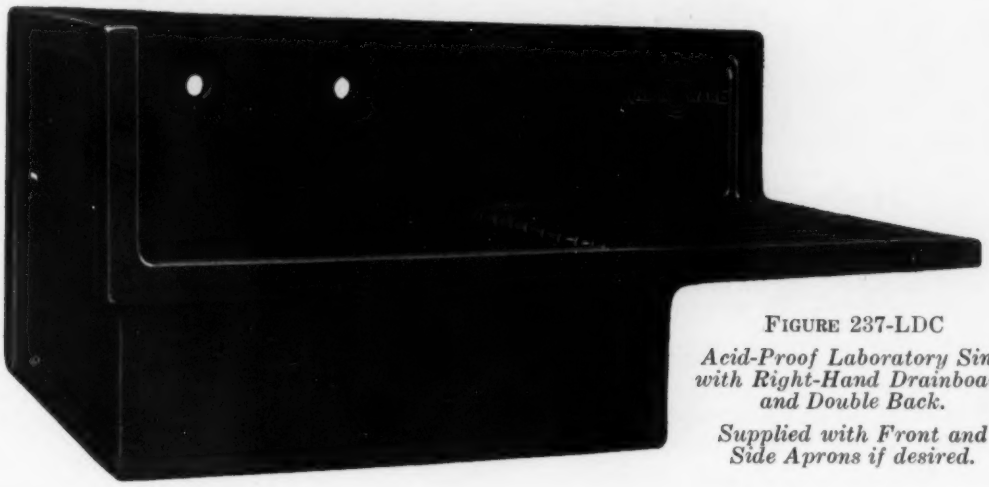


FIGURE 237-LDC
Acid-Proof Laboratory Sink with Right-Hand Drainboard and Double Back.
Supplied with Front and Side Aprons if desired.

FIGURE 269
B & S "P" Trap with Cleanout.

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News of the Month (Cont'd)

Institute for Administrators of Higher Institutions

The sixth annual institute for administrative officers of higher institutions will be held at the University of Chicago on July 8, 9 and 10. The central theme of the institute will be "Recent Trends in American College Education." The program on July 8 will be devoted to a discussion of progressive reforms at the junior college level. The program on July 9 will consider similar reforms at the senior college level. The program on July 10 relates to improved types of college tests and to comprehensive examinations.

The university extends a most cordial invitation to administrative officers of all higher institutions, including liberal arts colleges, teachers' colleges and universities, to attend. Arrangements have been made for those who attend the institute to visit classes and to enjoy other university privileges without the payment of fees. Letters of inquiry should be addressed to William S. Gray, school of education, the University of Chicago.

Many Teachers Will Stop in Denver on Return From Los Angeles

Many teachers from eastern points, upon their return from the summer convention of the National Education Association at Los Angeles, plan to attend the fourth biennial conference of the World Federation of Education Associations at Denver, July 27 to August 2. After spending the month between these conventions in attendance at California educational institutions or in the vacation lands of the Southwest, teachers will find Denver an appropriate place in which to finish an interesting and educative summer.

The convention program will be built around the general theme of international understanding and good will. Speakers from the fifty nations that are expected to attend the meeting will discuss the relation of business, diplomacy, the press, labor, education and travel to international cooperation. Other speakers will discuss the methods particularly adapted to the promotion of mutual appreciation between Europe and the Americas; the United States, Canada and the Spanish American countries; and Occidental and Oriental nations. One prominent leader of national thought from the Orient, one from Latin America and one from Europe will interpret the national ideals of the countries on their respective continents.

An outstanding event on the program will be the report of the Herman Jordan Committees on Education for International Understanding and Good Will. Dr. P. W. Kuo, Shanghai, will report for the committee on Education for Peace. Laura Ullrick of Winnetka, Ill., will give the report of the committee on social sciences. Daniel Chase, New York City, will report for the committee on international relations of youth. E. J. Sainsbury and Frank A. Hoare, both of London, will report for the committees on military training and attempts of diplomacy to obviate war.

Ruling Passed Against Married Women Applicants

Married women applicants for teaching positions in the public schools of Walden, N. Y., will no longer be considered. A resolution recently adopted by the board of education directs the superintendent of schools not to consider married applicants when filling staff vacancies. Another regulation notifies single women that marriage will mean the termination of their employment after the expiration of their existing contracts. Married women, already employed in the schools, are not affected by the rulings and will be retained in service.

Attorney General of Ohio Rules on University Patents

Patents assigned to the Ohio State University, Columbus, which are the outgrowth of researches made by the university, should be dedicated to the public of the state, according to an opinion of the attorney general, Gilbert Bettman.

The summary of the opinion, given to George W. Rightmire, president of the university, follows:

Where the Ohio State University becomes possessed of a patent by assignment from the nominal patentee, which patent is the outgrowth of researches made by the engineering experiment station of the university, the said university, through its proper officials, should dedicate said patent to the public of the state of Ohio.

News of the Month (Cont'd)

Conference Sets August 17-20 as Meeting Dates

The fourteenth annual American Country Life Conference will meet at Cornell University, Ithaca, N. Y., August 17 to 20, under the presidency of Dr. Liberty Hyde Bailey. The topic of the conference is "Rural Government."

Discussions will be carried on in six forums, one of which is devoted to public education, and will consider local units of school government. Francis B. Haas, president, State Teachers' College, Bloomsburg, Pa., is chairman of this forum and Julian E. Butterworth, Cornell University, is secretary. The topics of the four sessions of the forum are "Some Types of Local School Units," "Criteria for the Establishment of Local Units of School Government," "Problems in the Development of the Central Rural School District in New York," and a joint session with the forum on public health and welfare on "Problems of Coordinating School With Health and Welfare Services." Many of the leaders in the study and administration of rural schools as related to local government are on the program, which may be obtained from Prof. Dwight Sanderson, Ithaca, N. Y.

Radio Committee Receives Gift of $200,000

The National Committee on Education by Radio has received a grant of $200,000 unconditionally from the Payne Fund Foundation, New York City, to carry out its program of educational broadcasting, the chairman of the committee, Joy Elmer Morgan, has announced.

Appointed by the United States Commissioner of Education, the committee has as one of its principal objects the procurement of 15 per cent of the radio channels for educational purposes. Other work of the committee will involve safeguarding from encroachment stations that broadcast educational programs exclusively.

Mr. Morgan stated that actual work by the committee is already in progress. The pending bill in Congress allocating 15 per cent of the radio channels for exclusive use, Mr. Morgan said, will be pressed. However, considerable effort must be made to educate the American public to the importance of protecting the educators and educational broadcasters.

The gift of the Payne Fund Foundation was made outright and unconditional to cover expenses for a five-year program. However, Mr. Morgan explained, a systematic budget is being worked out for the expenditure of the sum.

Nations to Discuss Educational Broadcasting

An international conference on educational broadcasting will be held in Vienna, Austria, late this summer at which the United States Public Health Service will be represented in a discussion of promotion of public health by radio, according to a recent announcement.

The service will be represented at the conference by the officer of the service stationed in Vienna for the inspection of prospective emigrants destined for the United States.

The service has already undertaken a survey of the use of radio in health education in the United States by questionnaires sent to all state, county and municipal health officers, and this information is being gathered for use in the contribution of the Public Health Service to the conference.

The tentative program for the conference will be conducted under four main heads. They include:

The use of radio as a means of direct education, the indirect educational influence of broadcasting, the technique of broadcasting the spoken word and the relationship between the broadcaster and the listener.

Under the head of direct educational usage of the radio, there will be discussed its uses in combating illiteracy, supplementing professional and technical education, promoting health and hygiene, teaching of languages and musical education.

Under the head of indirect educational uses, the topics of political education, dissemination of news, dramatic broadcasts and nonvocational talks of an informative and stimulating character, will be discussed.

Under consideration of the technique of broadcasting the spoken word, the conference will discuss forms, such as straight talks, discussions, debates, running comments, and "showmanship."

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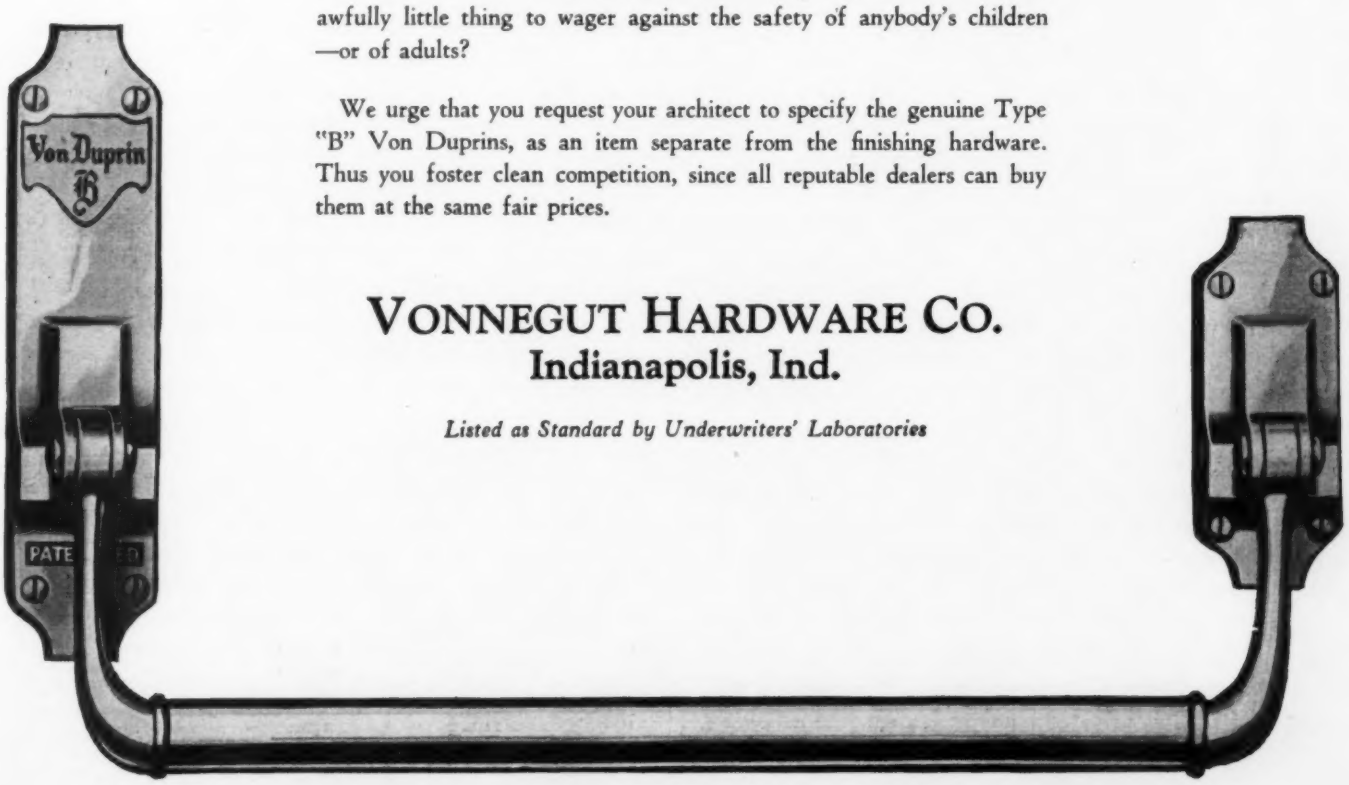
After all, isn't the small amount which cheaper devices will save, an awfully little thing to wager against the safety of anybody's children —or of adults?

We urge that you request your architect to specify the genuine Type "B" Von Duprins, as an item separate from the finishing hardware. Thus you foster clean competition, since all reputable dealers can buy them at the same fair prices.



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News of the Month (Cont'd)

Education Report to Be Presented in September

The National Advisory Committee on Education will convene in September to receive the completed report and recommendations relative to the future program of the Federal Government toward education.

Appointed in June, 1929, by the Secretary of the Interior, Ray Lyman Wilbur, with the approval of President Hoover, the committee has been engaged in research and has held numerous hearings to formulate a series of recommendations to be submitted to Congress.

A subcommittee has already completed the report and has just concluded an executive session given over to its study. The report will be submitted to the members of the entire committee in September.

The approach to the first comprehensive analysis of the relations of the Federal Government to education from a national viewpoint has involved three major tasks. The first was a consideration of the educational activities of the Federal Government, their present administration and what should be their future organization.

Survey of School Finance Will Start July 1

A national survey of school finance in the United States involving a four-year investigation will start July 1, Secretary Ray Lyman Wilbur has announced.

Provided with an appropriation of $250,000, the study will be conducted under the direction of Dr. William John Cooper, commissioner of the Federal Office of Education.

The survey, which will be known as the National Survey of School Finance, was authorized by the last Congress.

Announcement of the launching of the survey was made in connection with the appointment of Dr. Paul R. Mort, Teachers College, Columbia University, associate director of the survey in active charge of the study.

Expenditures for public elementary, secondary, and higher education in the United States now total $2,450,000,000 annually. The National Survey of School Finance is expected to produce comparative information on sources and uses of these funds in order to satisfy the demand by state legislatures, school officials, and school boards for authoritative data. Although statistics on school finance have been collected by the Office of Education since its creation in 1867, variations of accounting, assessment of properties and kinds of taxes levied in states and cities have given rise to many puzzling questions which can be answered only by such a survey as that now planned.

Congress authorized the National Survey of School Finance to be made at a cost not to exceed $350,000. For the fiscal year beginning July 1, 1931, $50,000 has been made available. It is expected that $100,000 per year will be appropriated for the following three years.

Research Bureaus Growing Rapidly

American city school systems are rapidly introducing research bureaus, Edith A. Wright, member of the library staff of the Federal Office of Education, points out in a statistical survey just published. Within the last six years the number of bureaus has increased from 50 to 118. Additional information from the survey follows:

The majority of the cities place testing as the first function of the bureau. Testing involves research in tests and measurements, educational investigation and measurements, psychological measurements, testing and guidance, tests and examinations, and similar curriculum practices. In 112 cities, this function ranks first.

In 93 cities, the first function of the research bureau is devoted to the improvement of instruction, while surveys rank first in 88 others. The other functions of these bureaus include experimental studies, curriculum making, guidance, finance studies, child study and statistics.

Research bureaus are divided among cities above 10,000 population as follows: 24 are in cities under 30,000; 12 are in cities from 30,000 to 50,000; 31 are in cities from 50,000 to 100,000, and 52 are in cities whose population exceeds 100,000.

Much variety exists in the names of the bureaus themselves. This is probably due to the nature of the chief functions with which each is concerned. Some are called bureau of curriculum, others, bureau of research.

Build School Floors for the Future

Everywhere, cities and towns are at work on new school buildings. Every item of their construction can be bought more economically in these days of lower raw material prices. But every item must be chosen for value and efficient service, for these new schools must stand and be useful for years to come.

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Main hallway of the West Middle School in Hartford, Conn. Architects: Malmfeldt, Adams & Prentice. The checkerboard floor is laid in Black Gold and Buff Black. The map in the center is a special design worked out by our Custom Department.

News of the Month (Cont'd)

Conference Called on High School Education

A regional conference on high school education sponsored by the Office of Education, Department of the Interior, in cooperation with the Colorado State Teachers College, will be held June 25 and 26 at Colorado State Teachers College, Greeley, Colo. William John Cooper, United States Commissioner of Education, will preside at the conference which he called for the discussion of questions vitally significant to educational administrators.

The high school student, the curriculum and extra-curricular activities, organization and administration are topics slated for consideration.

Colgate University Adopts Tutorial Plan

Colgate University, Hamilton, N. Y., plans to adopt a new system of education in which there will be ten students to one professor and a curriculum involving six major fields, according to an announcement by Walter J. Greenleaf, associate specialist in higher education.

Following the lead taken by several American universities which are searching for a more adequate method of training students in the four-year college course, Colgate aims to give the student a broad and fundamental knowledge and at the same time allow him to choose any one field he prefers for more intensive specialization.

The new proposal at Colgate cuts directly into the old traditional undergraduate course for the bachelor's degree. Imitating somewhat the plan being developed at the University of Chicago, all branches of knowledge are divided into four groups. These constitute the humanities, the social sciences, the physical sciences and the biological sciences.

The Colgate plan differs from the Chicago one in that the humanities are subdivided into studies in philosophy and religion and the fine arts.

Plans like those inaugurated in Chicago, Colgate, Rollins and other institutions, seek to lay before every student general fundamentals from which he may select those subjects which appeal to him directly and in which he has a spontaneous interest.

Colgate in planning small classes will in fact have the tutorial system. The instructor acts as a tutor to the students. Through his personal relation with them, he can understand their bent and guide them in an intelligent way to their intellectual and professional needs.

Iowa Has Fewest Illiterates of Thirty-Three States

Iowa, with an illiterate population of only 0.8 per cent has the least illiteracy among the 33 states for which 1930 census figures are now available, the National Advisory Committee on Illiteracy has announced. In actual numbers, there were only 15,279 illiterates in the state in 1930.

There were 8,177 native whites in 1930 who could neither read nor write compared with 5,932 foreign-born whites. Negro illiteracy was reduced to less than 1,000, there now being 777 in this group.

When Secretary of the Interior Ray Lyman Wilbur created the National Advisory Committee on Illiteracy, with the approval of President Hoover, in the fall of 1929, Iowa joined 42 other states and the District of Columbia to assist in a national movement which has as its primary object the reduction of illiteracy throughout the United States to a negligible minimum.

The National Committee, which is composed of about 1,000 distinguished citizens, has followed with gratification the work accomplished in Iowa. This committee is, in fact, a central organization of state leaders, but the entire illiteracy movement is decentralized in character with it serving in an advisory and stimulating capacity. It is supported by private gifts and maintained largely through volunteer service of public-spirited citizens. Under the chairmanship of Secretary Wilbur, the National Committee has entered with spirit and enthusiasm in attempts to help the states.

Teachers in Montana Must Take Oath of Allegiance

Oaths of allegiance to the United States, which are now required of school teachers in Montana, are being received at the office of the state department of education, according to announcement by the department.

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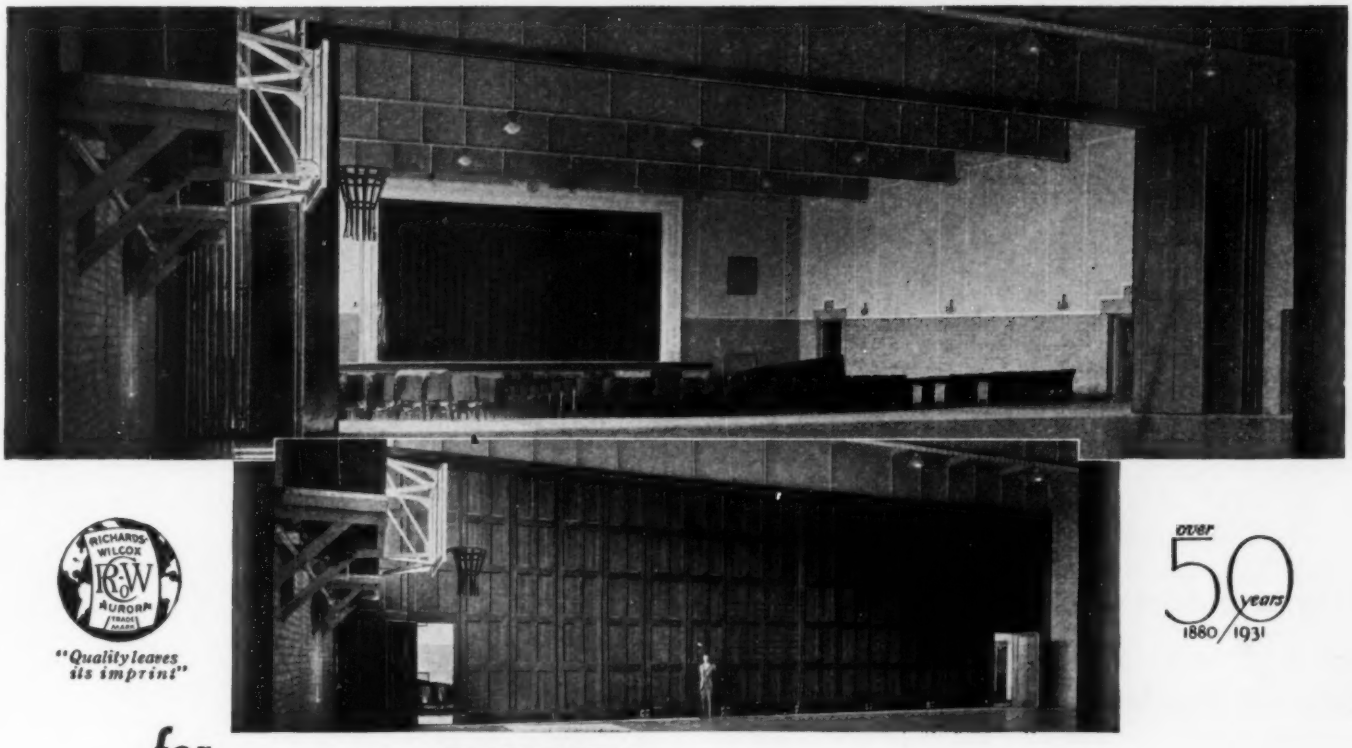

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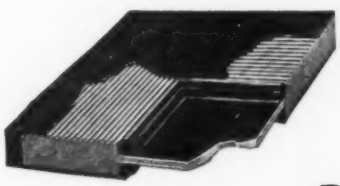

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In the Educational Field

CHARLES B. BOYER, superintendent of schools, Atlantic City, N. J., has resigned after forty-one years of service. His resignation will become effective August 1 at which time he will be made superintendent emeritus. He is succeeded by ARTHUR S. CHENOWETH, vice-principal of the senior high school.

H. G. SOUTHWICK, superintendent of schools, Bloomfield, Ohio, has resigned.

ERNEST R. CAVERLY will succeed OSCAR C. GALLAGHER as superintendent of schools, Brookline, Mass.

CLAUDE C. RUSSELL has been appointed superintendent of schools, New Haven, Conn., succeeding FRANK H. BEEDE. HERBERT C. CLISH is the newly elected assistant superintendent.

DR. EDWARD M. HAYWARD has resigned as superintendent of schools, Cohoes, N. Y. His resignation will become effective on July 1, on which date he will have completed his thirtieth year as superintendent of the Cohoes schools. DOCTOR HAYWARD has been engaged in educational work for fifty-two and a half years.

IRA W. TRAVELL has resigned as superintendent of schools, Ridgewood, N. J., after nineteen years in that position. MR. TRAVELL has been active in educational work for more than forty years.

SAM M. DAVIS is the new headmaster of the Terrill School for Boys, Dallas, Tex., succeeding B. M. BOGARTE.

EMIL O. MORSTAD, for the last six years superintendent of schools, Starkweather, N. D., has been elected superintendent at New England, N. D.

W. A. KINCAID, newly elected superintendent of schools, Montpelier, Vt., was formerly connected with the New York State Department of Education. MR. KINCAID succeeds S. O. HUTCHINSON, retired.

CARL A. BIELBY, principal, Athens High School, Athens, Mich., has resigned to become superintendent of the schools of Gladwin, Mich.

JOHN P. ARNOLD, principal, Howard School District, Brockton, Mass., for thirty-two years, has retired. MR. ARNOLD is seventy years old.

W. R. DAVIES, Beaver Dam, Wis., has been named superintendent of schools, Superior, Wis., succeeding LULU L. PICKETT.

WILLIAM E. PIERCE, superintendent of schools for the third district of Erie County, N. Y., took his own life recently. He had been brooding over his ill health.

ABSOLOM GRUNDY, principal, Haledon Public School, Haledon, N. Y., where he has taught for the last thirty-eight years, has retired.

J. P. CARR, superintendent of schools, Vicksburg, Miss., has resigned after forty years of service with the schools of that city.

EARL HARTSELL has been appointed acting superintendent of schools, Elizabeth, N. C., and reelected to the position of principal. The resignation of SUPT. J. A. JONES becomes effective on July 1.

NATHAN H. YELTON has been elected superintendent of schools, Bakersville, N. C., succeeding J. A. STEELE.

N. F. STEPPE is the newly elected superintendent of the public school system of Avery County, N. C.

H. C. DIXON, superintendent of schools, Salem County, Pa., died recently. He had been head of the Salem County schools since 1913.

O. T. KENT has resigned as superintendent of schools, Odon, Ind., to accept a position as superintendent at Noblesville, Ind. He succeeds F. M. STARR.

DR. J. W. CANTWELL, superintendent of schools, Wichita Falls, Tex., died recently.

FRANK M. BUCKLEY has resigned as superintendent of schools, Derby, Conn., to accept a position as supervisor of the newly created public school system in Tuckahoe, N. Y.

C. A. KROUT, superintendent of schools, Tiffin, Ohio, has retired after forty-one years of continuous service with the Tiffin schools. PAUL V. BROWN, superintendent at Barnesville, Ohio, succeeds him.

C. A. WEBER has been named superintendent of schools, Galva, Ill., succeeding F. U. WHITE.

In the Educational Field

H. L. MELVIN succeeds P. B. POLLOCK as superintendent of schools, Aulander, N. C.

ALBERT H. WILSON, principal, Nassau School, East Orange, N. J., has retired after thirty-one years in that position.

GEORGE B. CREGO has resigned as principal of School No. 7, Olean, N. Y., to become superintendent of schools, Depew, N. Y.

E. L. BROWN, assistant superintendent of the high schools and junior high schools of Denver, Colo., will retire from service on September 1.

FLORENCE I. BROWNE, principal, Walnut Square School, Haverhill, Mass., is retiring after forty-five years of service in the Haverhill schools.

C. L. MCDOWELL, superintendent of schools, Afton, Iowa, has been elected to succeed JACK LOGAN to the superintendency of the schools of Eagle Grove, Iowa. MR. LOGAN becomes head of the schools of Creston, Iowa, succeeding GEORGE DEWOLF.

L. W. FEIK has recently been promoted to the superintendency of the schools of Sioux City, Iowa.

F. W. JOHANSEN has been named superintendent of schools, Clarinda, Iowa.

GEORGE W. WANNAMAKER, superintendent of schools, St. Matthews, S. C., has been elected superintendent at Griffin, Ga.

CLAYTON L. JAMES, superintendent of schools, Pulaski, Tenn., has accepted the superintendency of the schools of Lebanon, Tenn. He will be succeeded by R. C. AUSTIN of Waverly, Tenn.

DR. PAUL D. COLLIER, superintendent of schools, Simsburg, Conn., has been named senior supervisor of secondary education, board of education, Hartford, Conn.

WALTER E. SHADE is the newly elected superintendent of schools, West Carrollton, Ohio.

RUSSELL E. SCHAFER will succeed PAUL V. BROWN as superintendent of schools, Barnesville, Ohio.

AMOS GLAD, principal of the Pratt High School, Pratt, Kan., has been elected superintendent of the Pratt schools succeeding W. A. WOOD, resigned.

J. F. WHITFORD, supervising principal, Bolivar, N. Y., has been voted a five-year contract by the board of education. MR. WHITFORD was formerly head of the department of education at Milton College, Milton, Wis.

J. J. PHILLIPS, superintendent of schools, Lancaster, Ohio, died recently.

DOROTHY FLUKE has been elected superintendent of schools, Walker, Minn., succeeding G. A. OTIS.

A. L. LEISSNER, JR., will succeed J. H. HICKS as superintendent of schools, Sabine Pass, Tex. MR. HICKS recently resigned.

DR. JAMES SULLIVAN, assistant commissioner of higher and professional education of New York State, has resigned his post because of ill health.

HARRY HUSTON has been named superintendent of schools, Blackwell, Okla., succeeding A. J. LOVETT.

E. L. STOUGH, superintendent of schools, LaFayette, Ala., has resigned to head the Morgan County Training School, Hartselle, Ala. He will succeed T. C. TILLER who will become superintendent of the LaFayette schools.

GERALD F. BUSH, who has been connected with the department of public instruction for Michigan for the last three and a half years, has been named to the superintendency of the schools of Charlevoix, Mich.

ELMER L. BRECKNER, superintendent of schools, Olympia, Wash., is the newly elected superintendent of schools, Tacoma, Wash.

J. A. CRANSTON, superintendent of schools, Santa Ana, Calif., since 1906, will retire in July.

WILLIAM GELLERMAN is the newly appointed superintendent of schools, Kent, Wash. MR. GELLERMAN before his appointment was high school principal at Renton, Wash.

EMMETT T. MILLER, formerly assistant superintendent of schools, Hannibal, Mo., has been named superintendent, to succeed LIVINGSTON MCCARTNEY, retired.

HAROLD HANSON, superintendent of schools, Freeman, S. D., is the newly elected superintendent at Parkston, S. D.

RIVERSIDE SCHOOL, Torrington, Conn. Painted throughout for lasting cleanliness and beauty with Barreled Sunlight

Torrington Tried it in One School

NOW THEY USE IT FOR ALL 16...

THE City of Torrington, Connecticut, has 16 fine schools...ten urban —six suburban. Each, of course, has painted interiors...which must be maintained.

For one of these maintenance jobs, Barreled Sunlight was used. The resulting difference was obvious...and pleasing. Surfaces painted with Barreled Sunlight were smoother...had richer lustre and depth. They were easier to clean...stayed clean longer.

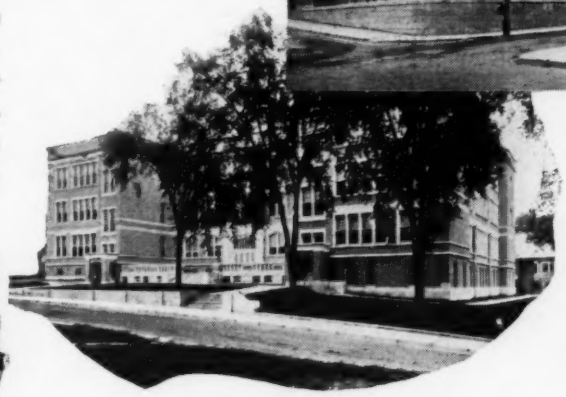
Now Barreled Sunlight is used for all upkeep painting in every Torrington school building. Eventually each school will be painted throughout with this distinctive finish.

Smooth as tile... with a handsome lustre...rich depth... Barreled Sunlight is comparable in beauty only to the finest enamels. Yet it costs less per gallon and goes farther on the job.

Smudges, fingerprints, wipe off easily with a damp cloth—as easily as from tile. Remarkably durable, Barreled Sunlight survives repeated washings without losing its original lustre.

THE WETMORE SCHOOL, Torrington, Conn. In this fine school, Barreled Sunlight is used for all maintenance work.

TORRINGTON HIGH SCHOOL, Torrington, Conn. Here Barreled Sunlight is specified as the paint to be used for all interior work.



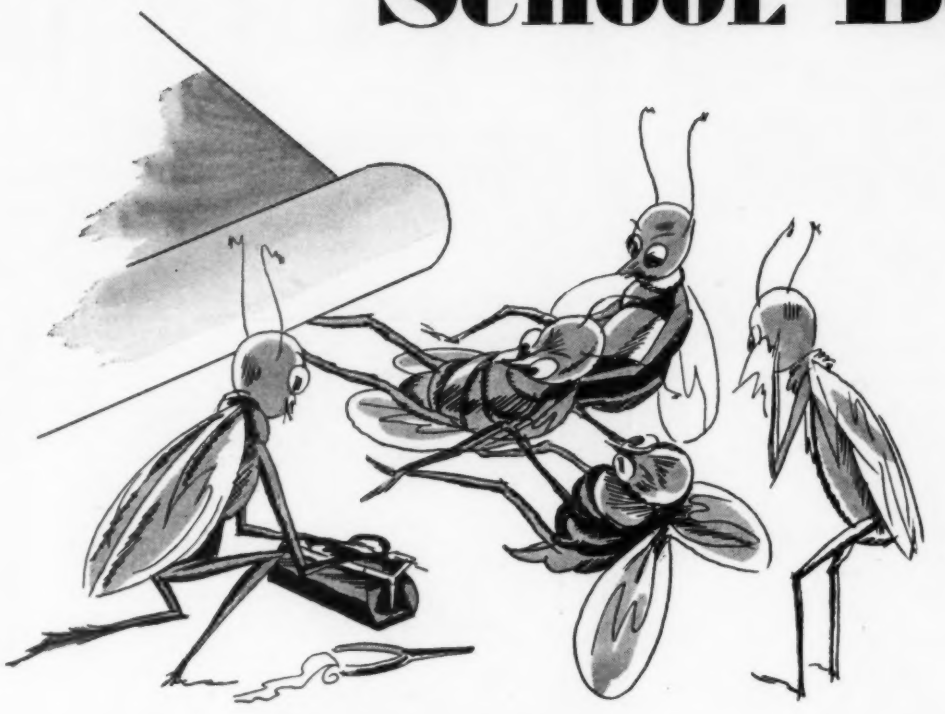
Easily tinted with ordinary colors in oil, walls and ceilings may be painted with Barreled Sunlight in colors appropriate to the needs of every room.

Write for the bookiet, "For Interiors of Lasting Beauty and Cleanliness," to U. S. Gutta Percha Paint Company, 47 F Dudley St., Providence, R. I. Branches or distributors in all principal cities. (For Pacific Coast, W. P. Fuller & Co.)

Barreled Sunlight

Reg. U. S. Pat. Off.

BRINGS SUIT AGAINST SCHOOL BOARD!



Hattie Microbe vs. Middletown School Board. $50,000 Damages. Case Thrown Out of Court.

There is no doubt that Hattie Microbe was considerably damaged when her leg was caught beneath a roll of W. & J. Sloane Linoleum being laid in the Middletown High School. Despite the testimony of her physician that she had suffered a compound fracture of the femur, the court ruled that she was negligent in continuing to reside in said sanitized school after the rest of the microbe colony had fled to the cracks and crannies of the old-fashioned wooden floor of the Town Hall. The case was dismissed.

What Hattie didn't know—and what almost every School Board DOES *know, is that W. & J. Sloane Linoleum is a most effective weapon in the war against microbes and unsanitary floors. Extra grinding of the ingredients, plus 32% extra pressure in the calender rolls, provides a super-smooth surface to which dirt and microbes cannot cling.* DOUBLE-WAXING *at the plant preserves its lustrous finish with a minimum of care. W. & J. Sloane Mfg. Co., Trenton, N. J.*

Send for this interesting book, "Linoleum,—What It Is—How It Is Made"—which contains a wealth of information of value to School Boards. For your free copy address Advertising Department, W. & J. Sloane, 577 Fifth Ave., New York.

W. & J. SLOANE LINOLEUM

The FILMO is a PERFECTED PROJECTOR

Easily operated . . . quiet . . . enduring

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See the Filmo Demonstration at the Los Angeles N. E. A. Convention, June 27 to July 3, at Bell & Howell Booth No. E-22

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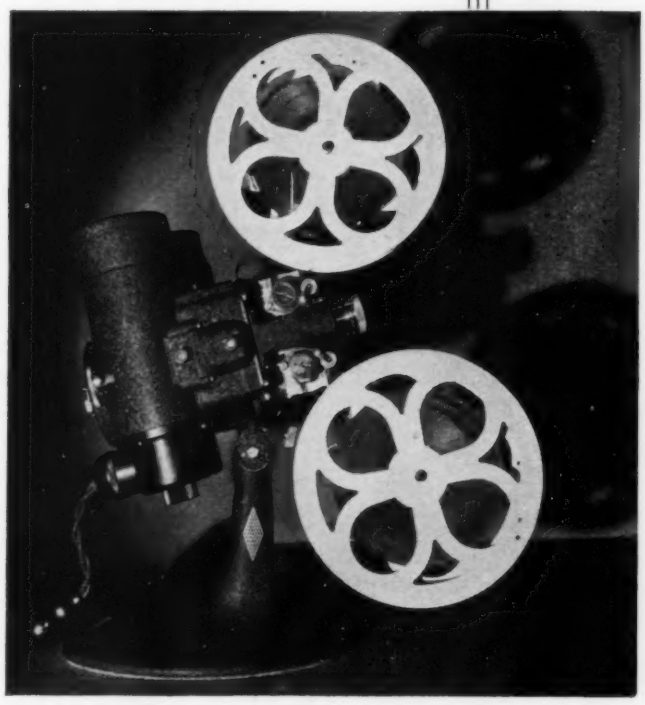
Below—The New Filmo 57-GG Projector—offering surpassingly brilliant illumination for classroom or auditorium use. Price $260 with handy carrying case which provides extra-wide base for Projector during operation.



Education is never stationary. It constantly advances, progresses. When you buy mechanical equipment for educational use, be certain that it can keep the pace, matching education's advance, step by step. Such equipment is the Filmo School Projector. Its manufacturers first assured themselves that the Filmo was basically perfect. Thousands upon thousands of projection-hours in school rooms the nation over have supplied the last rigorous test.

Consider the actual facts. Bell & Howell recently were able to devise a 375-watt Filmo model without the slightest visible change in the appearance of the projector. Furthermore, the Filmo Projector was made a part of the now famous Filmophone Portable Sound Movie outfit by merely increasing its motor's power. This illustrates what we mean by a basically *perfect* projector —one that is readily adaptable to each new trend in visual education, yet retaining the salient features which have assured its leadership in the educational world.

Any Filmo dealer will be pleased to demonstrate Filmo in your school room—either the regular 250-watt model or the new 375-watt model, with its tremendous illuminating power and brilliance, even in an undarkened class room or in a large auditorium. Write for Booklet No. 28, "Filmo Movies in Visual Education." Bell & Howell Co., 1815 Larchmont Avenue, Chicago, Ill. New York, Hollywood, London (B & H Co., Ltd.) Est. 1907.

WHY THE FILMO IS THE LEADING SCHOOL PROJECTOR

1. Brilliant, steady pictures.
2. Quietness.
3. Simplicity of Operation.
4. Superior "Still" Projection.
5. Flexibility and Portability.

NO FILMO HAS EVER WORN OUT

BELL & HOWELL

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FIRST CHOICE

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In over five hundred cities in every state in the union, this fact is true: *where comparative tests have been made, more schools have adopted Lyon Steel Lockers than have chosen any other type.*

Lyon Lockers enjoy this continent-wide preference because Lyon Lockers are better built. Lyon builds extra strength where there is extra wear and strain. Lyon hinges are double riveted. Lyon doors are doubly reinforced. Lyon corners are double thick. Lyon construction is more than a match for a whole generation of school boys.

Lyon's thirty years' experience in planning corridor and gymnasium locker installations is available to school boards and their architects without any obligation. To obtain Lyon Service, address:

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Extra Strength for Longer Life

1 Full Steel-Loop, Double-Riveted Hinges.

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CORRIDOR LOCKERS • GYMNASIUM LOCKERS • CLASSROOM LOCKERS • MAP CABINETS
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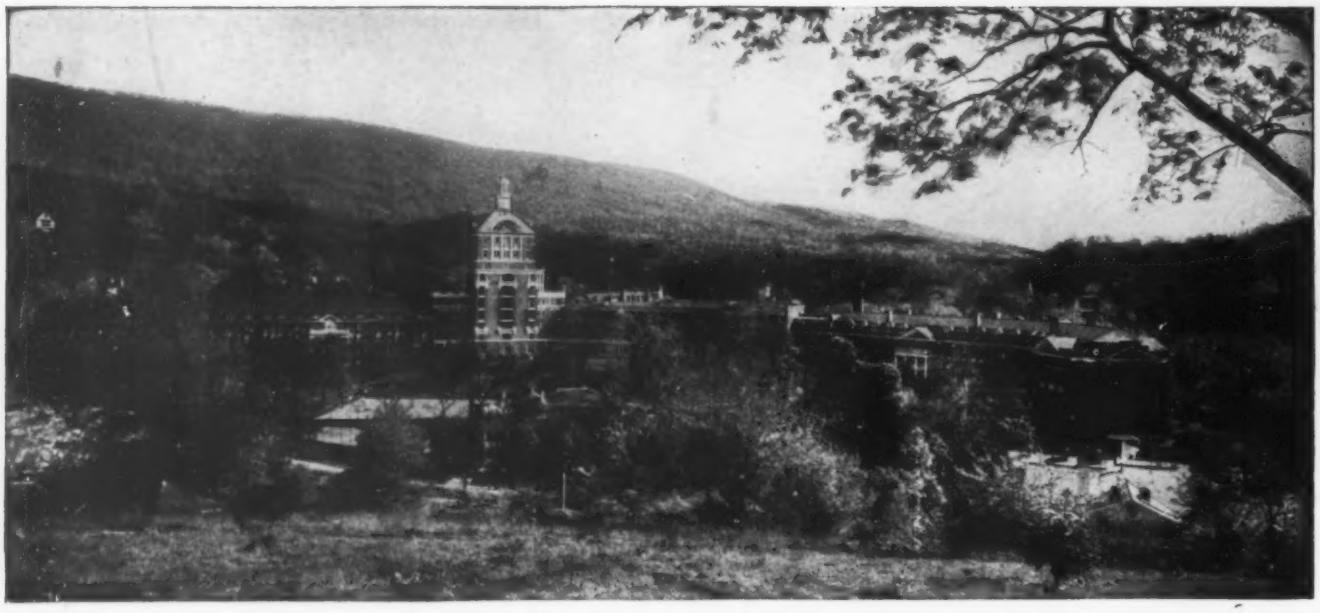

The Psychology of Convalescence

IT is the opinion of many prominent physicians and hospital administrators that convalescing patients should leave the hospital as soon as possible, and receive the benefits of a few weeks at a health resort, before resuming commercial, professional, or social duties. The psychological benefit of this procedure is of enormous advantage to the patient.

The HOMESTEAD, Hot Springs, Va., offers an ideal service to convalescing patients who are in need of post-hospital treatment and "conditioning." At these Springs patients can receive all the medical attention that may be required. Here are provided all approved forms of Hydrotherapy, Solarium, Zander Institute, Diet Kitchen — in fact, every facility for recuperation that is to be found in the best of European Spas. The Calcic Carbonate, Magnesia Carbonate, and Sulphate Springs located here are all radioactive. The springs emanate from the ground at a temperature of 106 degrees.

The HOMESTEAD, in its appointments and service, will meet all expectations. The climate is unsurpassed and the mountain scenery is magnificent, with splendid opportunities for golf, horseback riding, etc. In addition to these is the companionship of those who are in full health or on the road to recovery — in short, Hot Springs, Va., presents the right combination of psychological and physiological factors essential to speedy recovery of health and efficiency.

Hospital officials and physicians are cordially invited to correspond with our Resident Manager for more detailed information. Write for the beautiful illustrated book, "Virginia Hot Springs," and the booklets on "The Cure at Hot Springs, Va.," "A comparison of the Hydrotherapeutic Methods at Aix-Les-Bains and Virginia Hot Springs," and "The Radio-Activity of the Mineral Waters of Hot Springs, Warm Springs and Healing Springs in Hot Springs, Va." The information in these booklets will be valuable to you.

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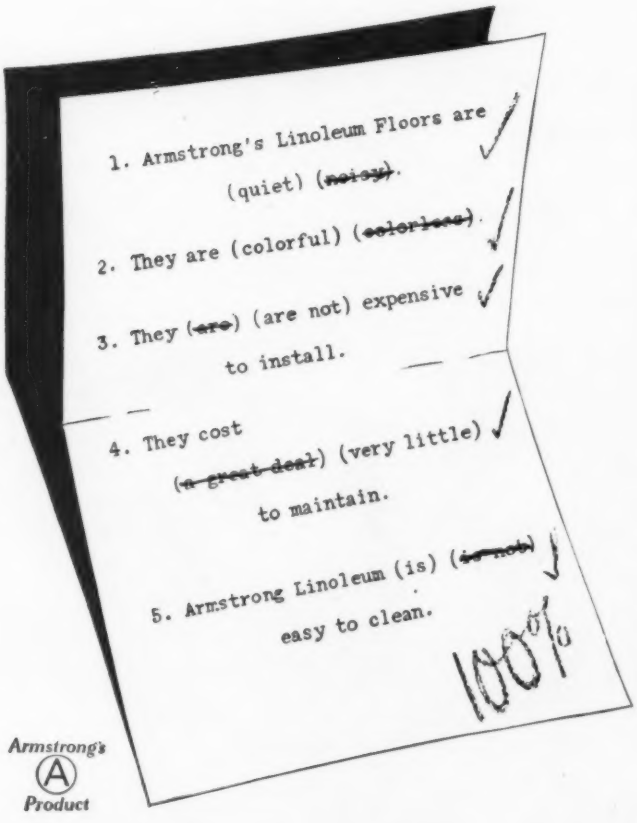
The gleaming floor in this classroom of the College of St. Catherine, St. Paul, Minnesota, is Armstrong's Taupe Jaspé No. 12.

Will your school floors pass this test?



Armstrong's (A) Product

You need never worry about floor failures when you use Armstrong's Linoleum

NO matter how severely the 60 pupils in this classroom of the College of St. Catherine, St. Paul, Minn., test this floor . . . it will always look its best. For it is Armstrong's Linoleum (Jaspé No. 12). Scuffling feet, sliding chairs, tracked-in dirt and dust will never dull the gleaming surface. A quick dusting and every trace of dirt is gone. Even spilled ink can be quickly wiped from the Accolac-Processed (lacquer-sealed) surface. An occasional waxing or re-lacquering is all the care ever needed to keep Armstrong's Linoleum in perfect condition through years of wear. (Do not lacquer over wax.)

There are over 300 designs suitable for school use. But whichever you select, every Armstrong Floor has the same foot-easy qualities. They're quiet, too, reducing schoolroom clatter to a minimum.

Send for a copy of "Public Floors of Enduring Beauty." This book illustrates in full color how Armstrong's Linoleum has been installed in public buildings from coast to coast. Our School Service Department is always ready to help you plan decorative schemes. Armstrong Cork Co., Floor Sales Division, Lancaster, Pa.

Armstrong's Linoleum Floors

for every room in the house

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Keep Dr. Jekyll *and* Mr. Hyde out of the blackboard picture!

IS the "sample" of blackboard you examine Dr. Jekyll . . . and the finally delivered product Mr. Hyde? Are you sold through a sample that merits your consideration only to find that the finally delivered product somehow has changed?

Every sample of Sterling Lifelong Blackboard is a *stock* sample . . . and behind every foot a pledge of satisfaction made by this reliable 47 year old concern.

Sterling is a better blackboard . . . a quality product scientifically produced to perform exactly as the educator expects and desires. Investigate its advantages over *any other blackboard.* You should know all the facts about Sterling Lifelong Blackboard—the features that make it a *better* blackboard for your schools. Address Department S-621 for detailed information. We will send you a sample of Sterling, too.

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Here's the NEW Dishwashing Machine we promised you

The NEW Model "R-1" COLT AUTOSAN

Rack Type
Large Capacity
Direct Action Sprays
Corner *or* Straightaway
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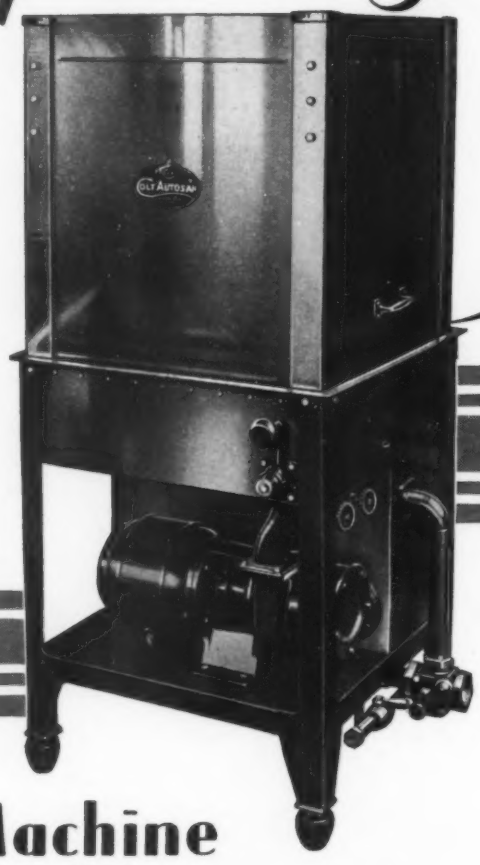

More Dishwashing Machine Value - - Than you've ever seen at the price!

A New Colt Autosan—bristling with quality—selling at the lowest price ever placed on a Colt Autosan Dishwashing Machine—is ready for your kitchen.

Model R-1 is the result of years of testing and experiment—designed to meet the present day requirement for efficient and dependable dishwashing equipment—at the lowest price possible.

Quality—Ruggedness—Simplicity of Design and Operation are ear-marks of this new Colt Autosan. Model R-1 represents a dishwashing machine value that has never before been equalled—an outstanding example of Colt quality—and Colt economy. Read carefully the ten time, space and labor saving features at the right—they mark a dishwashing machine that is years ahead of the field—a model that will effect amazing savings in your kitchen. Capacity up to 500 persons per meal.

Note These Features - -

1. Rugged construction with fittings of highest quality.
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3. No unsightly dust gathering mechanism on top of machine.
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THE NATION'S SCHOOLS

VOLUME VII

JANUARY TO JUNE, INCLUSIVE

1931

THE NATION'S SCHOOLS PUBLISHING COMPANY
CHICAGO
1931

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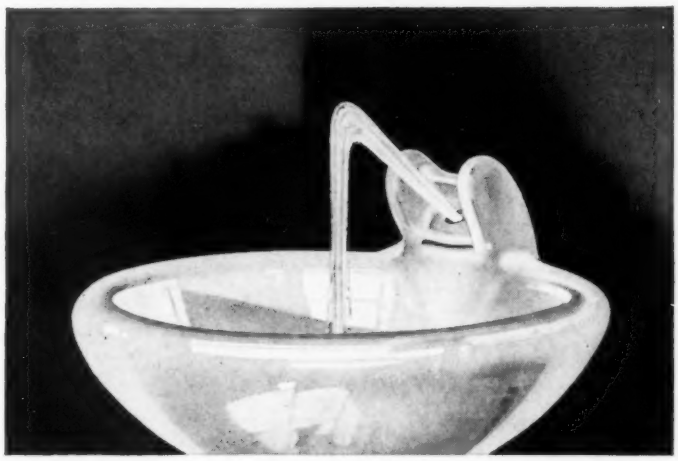
Drinking fountains that guard against infection



New Raised Integral Angle-Stream Non-Squirting bubbler on Crane drinking fountains

DRINKING fountains that cannot spread infection have long been the aim of Health Associations and School Boards.

Now such fountains are possible. They are the Crane integral angle stream fountains with non-squirting bubblers, which have been planned around the following improvements:

1 Vitreous china has been used throughout in their construction; thus the utmost has been made of the unquestioned sanitary advantages of this ware.

2 The bubbler has been located above the rim; a change in design which completely solves the problem of water supply contamination. Even when the outlet is clogged, the receptor's overflow will not wash into it.

3 A lip guard has been added to prevent the lips touching the china spout.

4 The spout is further protected by a hood which prevents saliva and other foreign matter from falling back into it.

5 The china spout is equipped with a non-squirting feature so constructed that fingers cannot be placed directly on the supply spout.

These features and the Crane Automatic Stream Regulator, which makes possible a constant height drinking stream, regardless of variations in water pressure in the supply line, are available in a wide range of designs.

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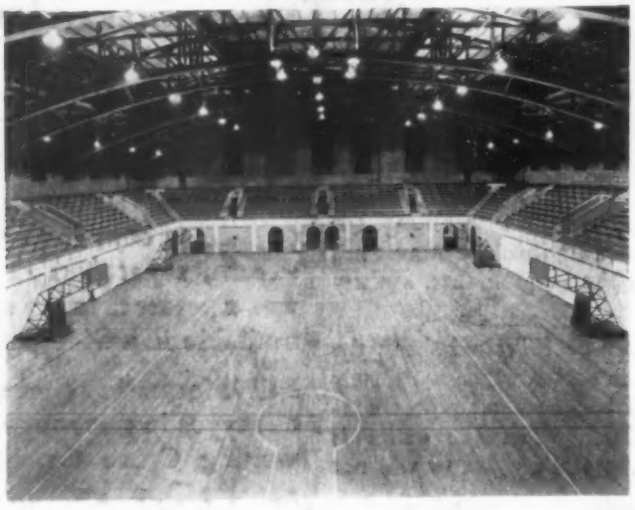
Mechanical Drafting Room, Engineering Dept. lighted with Holophane Filterlites.



Holophane installation photographs are always night-light pictures, without retouching.

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